RISC RWT6G086800A One-Way Wireless Radio Detector Instruction Manual

Contents

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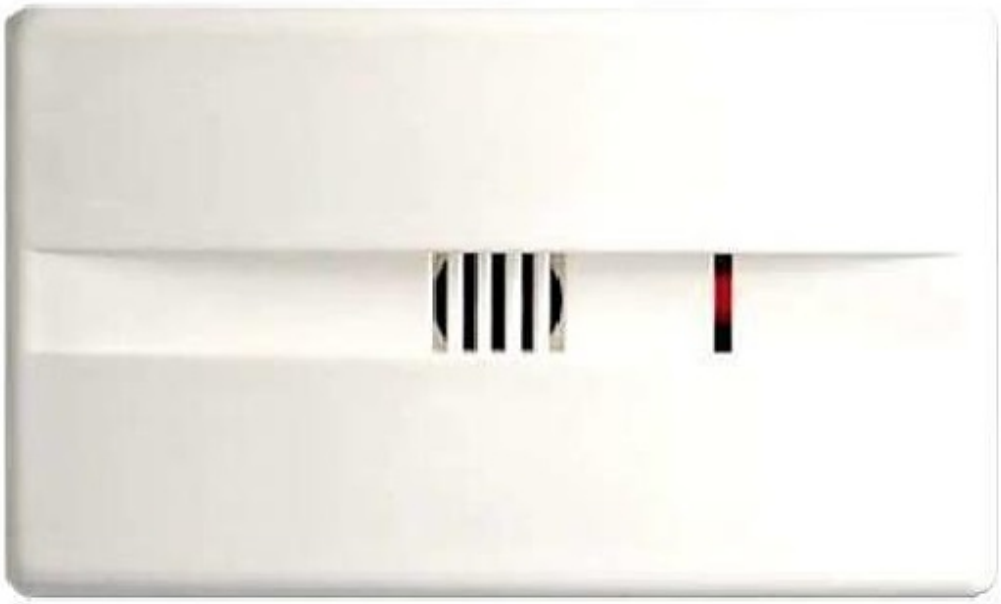


General Description

The Wireless VITRON 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 VITRON 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 Tempered Laminated	3.2 mm – 6.4mm (1/8”-1/4”)
Wired	6.4 mm (1/4”)

- Wireless VITRON 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 VITRON).

Installation Procedure

Range of coverage

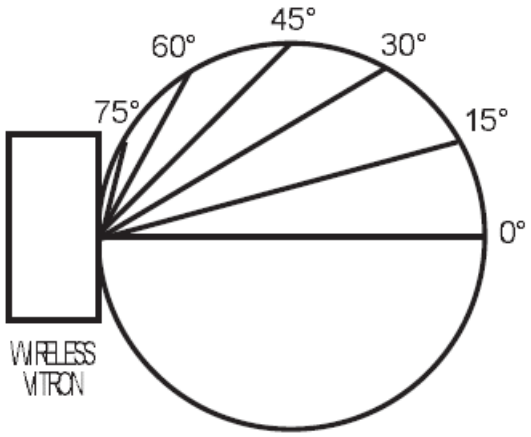


Fig 1: Percentage of Maximum Range as a function of angle between Wireless VITRON and glass.

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

Angle (degrees)	Percent of the maximum range
0	10
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.

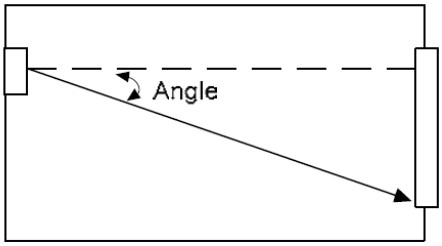


Fig 2: Angle between Wireless VITRON and glass

Verify that the distance between the Wireless VITRON 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).

Other factors affecting range

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

Mounting Location

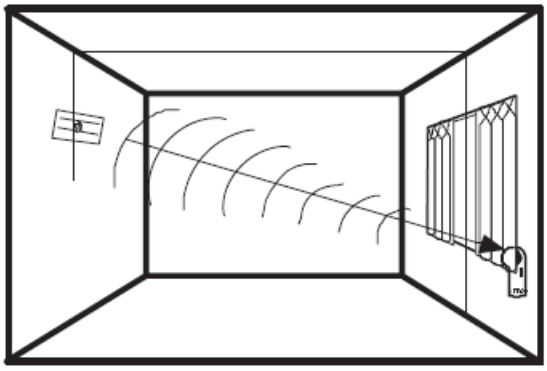


Fig. 3

For optimal performance the Wireless VITRON 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 VITRON is centered opposite glass, see Fig. 3).

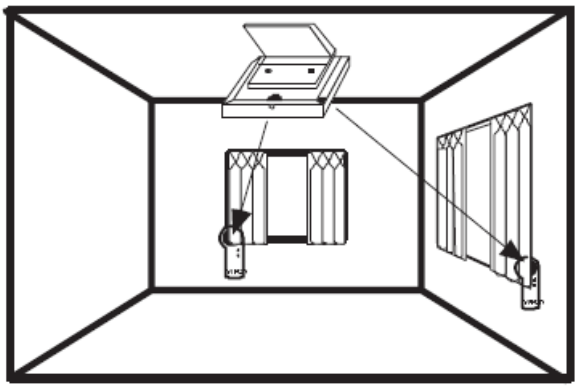


Fig. 4

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

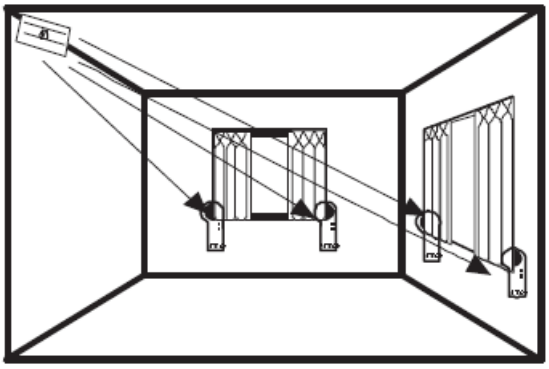


Fig. 5

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

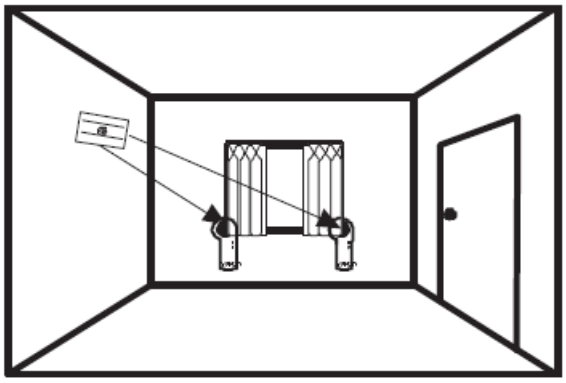


Fig. 6

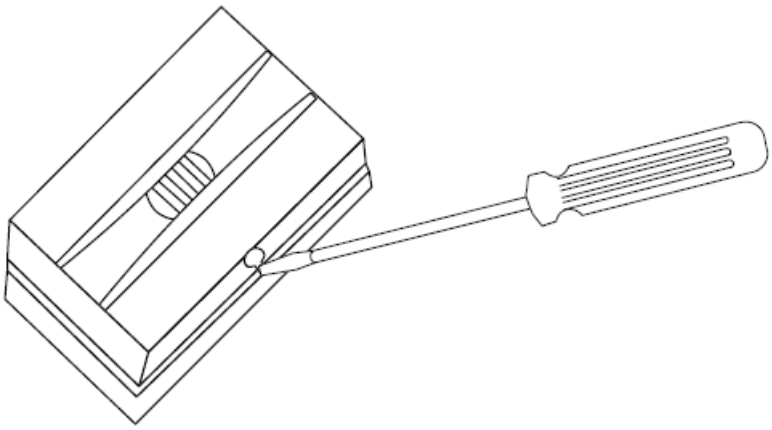
- Side wall – mounted (not recommended due to the fact that the Wireless VITRON is not opposite the glass – see range versus angle diagram (Fig 2). Test detection carefully at both ends of glass using RG-65 Tester (see fig. 6).

Notes

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

Mounting

1. Open the Wireless VITRON 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.
    - **Notes:** Remove the PCB only if corner mounting or optional swivel mounting adaptor is used.

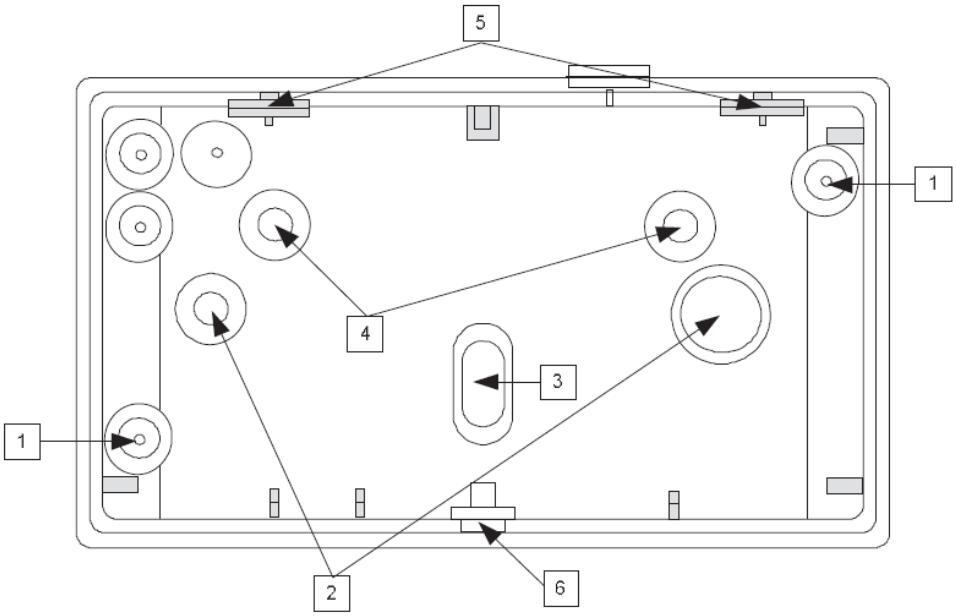


Fig 7: Wireless VITRON Mounting Knockouts

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

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

Swivel Mounting

When installing the Wireless VITRON 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 VITRON back plate
2. Open the swivel mounting adaptor knockouts (4, Fig 7).

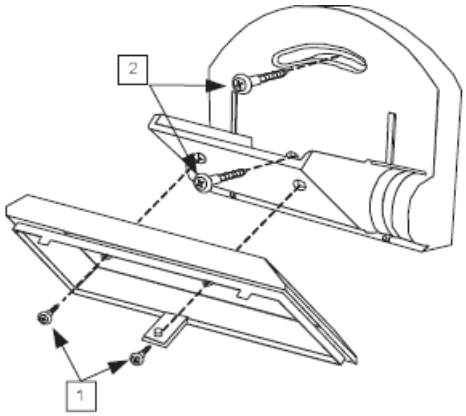
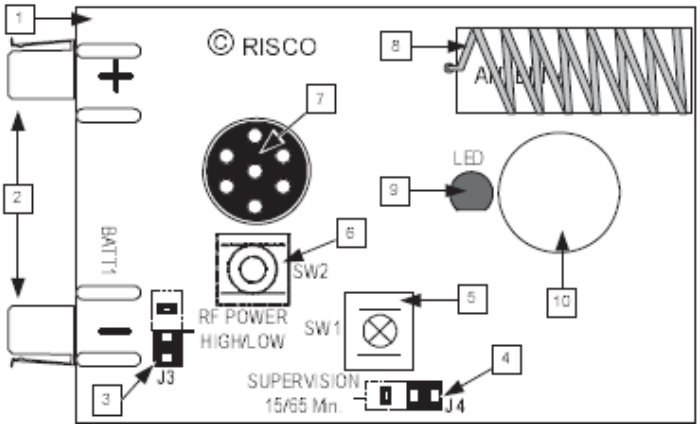


Fig. 8

3. Attach the swivel mounting adaptor to the back plate using the two supplied screws (1, Fig 8).
4. Mount the Wireless VITRON 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.

PCB Main Components



Description

1. PCB
2. Battery holding holders
3. J3 – RF Power selector
4. J4 – Time supervision selector
5. Front Cover tamper switch
6. Back Plate cover tamper switch
7. Microphone
8. Antenna
9. Indication LED
10. Positioning hole

Transmitter/Receiver Communication link setup

The Wireless VITRON has 3 operation modes:

- **Normal:** Any loud sounds such as clapping, whistling or key-jingling should produce a flash of the VITRON ‘s

LED. This verifies that the Wireless VITRON 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.

Testing the Wireless VITRON

Testing under Test mode

Testing should be performed using RISCO Group'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 VITRON enter the test mode if one of the following is performed:

1. After closing the front cover – the Wireless VITRON 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 VITRON. Set the lower selector switch on the RG65 tester to CODE setting and press the operation button on the tester. The Wireless VITRON 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 the lower selector to GLASS setting and the upper to type of glass to be simulated. Generate a glass-break sound by pressing operating button. Verify that the Wireless VITRON 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 VITRON and note any disturbances. If disturbances occur, reposition 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 VITRON 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 VITRON 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.

Jumpers settings

	Description	Jumper position	
J3	**Power High/Low**	Low power  default For FCC only	High Power 
J4	**Supervision** Defines the Glass break supervision time	On 15 Min 	Off 65 Min 

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)
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	RWT6G086800A – 868.65MHz RWT6G043300A – 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)
RF immunity	According to EN 50130-4

- Specifications are subject to change without prior notice

Ordering Information

Part Number /Description

- **RWT6G086800A:** 868.65MHz
- **RWT6G043300A:** 433.92MHz

Note: The detector contains a swivel.

FCC STATEMENT

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 on and off, 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 the receiver.
- Connect the equipment into an outlet on to a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this equipment that are not expressly approved by the party responsible for compliance (RISCO Group's.) could void the user's authority to operate the equipment.

- **FCC ID:** JE4RWT6G Valid for P/N RWT6G043300A
- **IC:** 6564-RWT6G Valid for P/N RWT6G043300A

RTTE Compliance Statement

Hereby, RISCO Group declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. For the CE Declaration of Conformity please refer to our website: **www.riscogroup.com**.

Contacting RISCO Group

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Documents / Resources

	**RISC RWT6G086800A One-Way Wireless Radio Detector** [pdf] Instruction Manual RWT6G043300A, RWT6G086800A One-Way Wireless Radio Detector, RWT6G086800A, One-Way Wireless Radio Detector, Wireless Radio Detector, Radio Detector, Detector

References

- riscogroup.co.uk
- riscogroup.com