

# SWAN PGB

## PASSIVE INFRARED SHOCK & BREAKAGE DETECTOR With PET IMMUNITY

### PRODUCT FEATURES

The detector performs an analysis of environmental conditions through the entire movement spread frequency spectrum. It listens for sounds of breaking glass, which produces two sequential signals of different frequencies "SHOCK" and "GLASS". The unique phased frequency detection circuitry of this detector allows detection of both shock signal and the strong signal of glass breakage creating a false alarm free detector. The detector does not need to be attached to the window, providing volume protection, and allowing you to protect several windows with one detector.

- Quad (Four element) pyrosensor.
- Two independent relay outputs for GLASS/SHOCK and PIR alarm signals.
- VLSI SMD technology.
- PIR sensitivity adjustment.
- GLASS sensitivity adjustment.
- SHOCK sensitivity adjustment.
- Volume protection.
- Automatic temperature compensation.
- Height installation calibrations free – 1.8m-2.4m.
- Environmental immunity.
- The Swan PGB provides *pet immunity* up to 25Kg. Pet active below 1m.

### SELECT MOUNTING LOCATION

Choose a location in front of the protected windows, in direct line of sight within 4.5m. In case of more than one window, place the detector in the center area facing the windows; make sure that this location will be most likely to intercept an intruder, that may cross the PIR beams. See PIR detection pattern – fig. 4 and SHOCK and GLASS detection area – fig.1. If heavy blinds or curtains cover the glass, you must locate the detector behind the blinds on the window frame or above it; otherwise the blinds might block the sound.

#### AVOID THE FOLLOWING LOCATIONS

- \* Facing direct sunlight.
- \* Facing areas subject with temperature changes.
- \* Areas with air ducts or substantial air flows.
- \* Facing metal doors.
- \* Close to door entrance bells measuring 2" (or larger) in diameter.

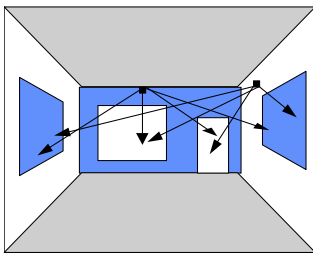


Fig. 1

### DETECTOR INSTALLATION

The detector can either be wall or corner mounted. If ceiling or special wall mounting is required, use the optional bracket base. Refer to bracket description. (See fig. 5).

1. To remove the front cover, unscrew the holding screw and gently raise the front cover.

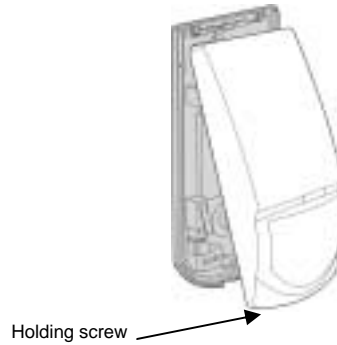


Fig.2

2. To remove the PC board, carefully unscrew the holding screw located on the PC board.
3. Break out the desired holes for proper installation.



- A. Wire access holes
- B. Use for flat wall mounting
- C. Corner mounting - use all 4 holes. Sharp left or right angle mounting - use 2 holes (top and bottom)
- D. For bracket mounting

Fig. 3

4. The circular and rectangular indentations at the bottom base are the knockout holes for wire entry. You may also use mounting holes that are not in use for running the wiring into the detector. (For bracket option installation - lead wire through the bracket – fig.5)
5. Mount the detector base to the wall, corner or ceiling. (For bracket option with see fig. 5).
6. Reinstall the PC board by fully tightening the holding screw. Connect wire to terminal block.
7. Replace the cover by inserting it back in the appropriate closing pins and screw in the holding screw.

### DETECTOR CONNECTION



#### Terminal 1 - Marked " - " (GND)

Connect to the negative Voltage output or ground of the control panel.

#### Terminal 2 - Marked " + " (+12V)

Connect to a positive Voltage output of 8.2 -16Vdc source (usually from the alarm control unit)

#### Terminals 3 & 4 - Marked " TAMPER "

If a Tamper function is required connect these terminals to a 24-hour normally closed protective zone in the control unit. If the front cover of the detector is opened, an immediate alarm signal will be sent to the control unit.

#### Terminals 5 & 6 - Marked " R-PIR "

These are the output PIR relay contacts of the detector. Connect to a normally closed zone in the control panel.

#### Terminal 7 - Marked " EOL " – End of line option.

#### Terminals 8 & 9 - Marked " R-MIC "

These are the output MICROPHONE relay contacts of the detector. Connect to a normally closed zone in the control panel.

### TESTING THE DETECTOR

Wait for one minute warm up time after applying 12 Vdc power. Conduct testing with the protected area cleared of all people.

#### Walk test

1. Remove front cover.
2. Set LED to ON position.
3. Reassemble the front cover.
4. Start walking slowly across the detection zone.
5. Observe that the LED lights whenever motion is detected.
6. Allow 5 sec. between each test for the detector to stabilize.
7. After the walk test is completed, you can set the LED to OFF position.

#### NOTE:

Walk tests should be conducted, at least once a year, to confirm proper operation and coverage of the detector.

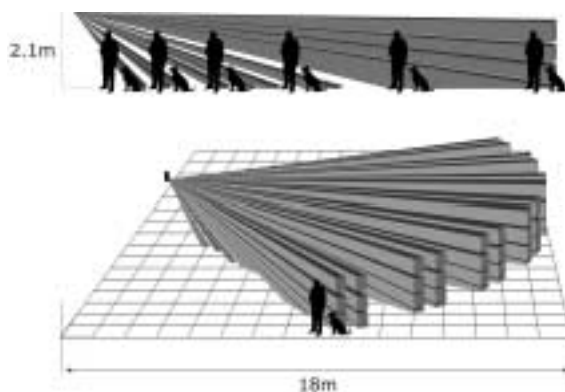


Fig. 4

#### Ceiling bracket base



#### Wall bracket base

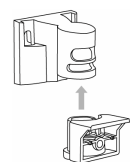


Fig. 5

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### SETTING UP THE DETECTOR

#### LED INDICATION OF ALARM SIGNAL

**Switch 1** of dipswitch DIP4 use for setting - LED Enable / Disable.

Position Down - ON – LED ENABLE, The LED will activate when the detector is in alarm condition.

Position Up – OFF - LED DISABLE, The LED is disabled.

#### SOUND SENSITIVITY ADJUSTMENT

**Switch 2** of dipswitch DIP4 use for setting **AUD** – provide control of sound detection sensitivity.

Position Down – ON – reducing the sensitivity of sound detection by 50%. (Use in small room)

Position Up – OFF – sensitivity of sound detection 100%.

#### PIR SENSITIVITY ADJUSTMENT

**Switch 3** of dipswitch DIP4 use for setting the PULSE count function in order to provide PIR sensitivity control according to the environment.

Position Down – ON – High sensitivity For stable environments.

Position Up – OFF – Low sensitivity For harsh environments.

#### PET IMMUNITY SETTING

**Switch 4** of dipswitch DIP4 use for setting the PET Immune function - Up to 15Kg or 25Kg, depending on the pet weight.

Position Down - ON - Pet Immune up to 15 kg

Position Up - OFF – Pet Immune up to 25 kg

#### RANGE ADJUSTMENT

Use the Potentiometer marked “PIR” to adjust the detection sensitivity between 15% and 100%, according to walk test in the protected area. (Factory setting is 57%)

Rotate the potentiometer clockwise to increase range, counter-clockwise to decrease range.

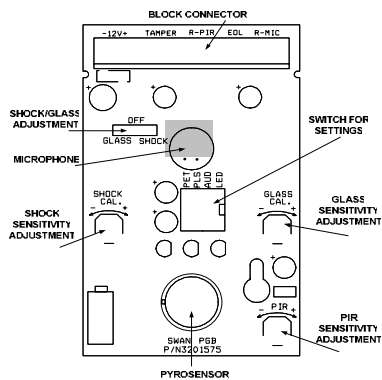


Fig.6

### SHOCK/GLASS ADJUSTMENT

Use only during testing and setting

OFF  
 SHOCK - for adjustment of the low frequency sensitivity with potentiometer “SHOCK”

OFF  
 GLASS - for adjustment of the high frequency sensitivity with potentiometer “GLASS”

OFF  
 OFF - for regular operation

### GLASS BREAK CALIBRATION

To calibrate the glass break sensitivity, place the jumper accordingly GLASS marking. Green (SHOCK) LED is constantly ON.

Now you can adjust the sensitivity by rotating the GLASS potentiometer.

Operate the Sound Break Simulator\* near the protected window and rotate the potentiometer GLASS clockwise to increase sensitivity, and counter-clockwise to decrease sensitivity until the Yellow and Red LEDs are illuminating for each glass break sound.

**Note:** When the jumper is set for GLASS adjustment, only the high frequency sound of breaking glass is detected.

**\* It is recommended to use GLASS-BREAK Simulator FG-701 (CROW p/n 004001)**

### SHOCK CALIBRATION

To calibrate the shock setting (increase/decrease sensitivity) place the jumper accordingly SHOCK marking - Yellow (GLASS) LED is constantly ON. Now you can adjust the sensitivity by rotating the potentiometer SHOCK.

Hit gently on the protected glass and rotate the potentiometer clockwise to increase sensitivity, and counter-clockwise to decrease sensitivity until the Green and Red LEDs are illuminating for each hit.

**Note:** When the jumper is set for SHOCK adjustment, only the low frequency of the shock signal prior to glass breakage is detected.

### FINAL TESTING

- Make sure to set jumper “GLASS/SHOCK” in position OFF. When the jumper is in this position, the detector will detect both shock and sound frequencies.
- To ensure maximum protection against false alarms, activate any device in the area, which might automatically cycle pumps, generators, heating/air conditioning units, etc. If the cycling devices trigger an alarm, mount the unit in a different location.

### TECHNICAL SPECIFICATION

Detection Method	Quad (Four element) PIR & electret microphone
Detection Speed	0.15 – 3.6 m/sec
Power Input	8.2 - 16 Vdc
Current Draw	Alarm PIR :16.5mA; Alarm Shock & Glass: 22mA; Alarm all: 18mA Standby: 16.5 mA
BI Directional	
Temperature Comp.	YES
Pulse Count	1, AUTO
Alarm Period	2 sec
Alarm Output	N.C 28Vdc 0.1 A with 10 Ohm series protection resistors
Tamper Switch	N.C 28Vdc 0.1A with 10 Ohm series protection resistor – open when cover is removed
Warm Up Period	60 sec
Operating Temperature	-20°C to +50°C
RFI Protection	30V/m 10 - 1000MHz
EMI Protection	50,000V of electrical interference from lighting
Visible Light Protection	stable against halogen light 2.4m or reflected light
Detection range	Glass up to 10m ( 90° ); PIR up to 15m (WA lens)
LEDs indicator	Yellow LED (GLASS) - glass break signal for testing & adjustment Green LED (SHOCK) - shock signal for testing & adjustment Red LED (ALARM) - alarm signal: Fleshing light - glass & break detection or glass & shock & PIR detection Constant light - PIR detection
Dimensions	123mm x 62mm x 38mm
Weight	110.gr.

### CROW ELECTRONIC ENGINEERING LTD. ("Crow") - WARRANTY POLICY CERTIFICATE

This Warranty Certificate is given in favor of the purchaser (hereunder the "Purchaser") purchasing the products directly from Crow or from its authorized distributor. Crow warrants these products to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "Warranty Period").

Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period.

All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser.

Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions.

There are no warranties, expressed or implied, of merchantability or fitness of the products for a particular purpose or otherwise, which extend beyond the description on the face hereof.

This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise.

In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection.

Purchaser understands that a properly installed and maintained product may in some cases reduce the risk of burglary, fire, robbery or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result.

Consequently, Crow shall have no liability for any personal injury, property damage or any other loss based on claim that these products failed to give any warning. If Crow is held liable, whether directly or indirectly, for any loss or damage with regards to these products, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of these products, which shall be the complete and exclusive remedy against Crow.

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These instructions supersede all previous issues in circulation prior to January 2012.