

SRPG – 2N

PROFESSIONAL PASSIVE INFRARED SHOCK & BREAKAGE DETECTORS

CROW
ELECTRONIC ENGINEERING LTD.
INSTALLATION INSTRUCTIONS
P/N: 7101320 Rev. A A.Y.

SRPG - 2N FEATURES

A new generation of professional movement spread spectrum analyzing PIR, Shock & Glass Breakage detectors.

- Dual element pyrosensor.
- Two independent relay outputs for GLASS/SHOCK and PIR alarm signals.
- VLSI SMD technology.
- Hard type full pattern spherical lens and diffractive mirror for creep zones.
- PIR sensitivity adjustment.
- GLASS sensitivity adjustment.
- SHOCK sensitivity adjustment.
- Volume protection.
- Automatic temperature compensation.
- Height installation calibrations free from 1.5m to 3.0m (5 ft to 10 ft).
- Environmental immunity.

The detector provides 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.

SELECTING 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 across the PIR beams.

See PIR detection beams in fig. 5 and 6. See SHOCK and GLASS detection area in fig. 7. 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.

MOUNTING THE DETECTOR

The detector can either be wall or corner mounted.

1. To remove the front cover, insert a flat screwdriver in the slot between the front and the

bottom above the holding screw hole and push gently, until the front cover is disengaged and the opening click is heard. (Fig. 1)

2. Remove the printed circuit board by spread out the two tabs, which are located on the either side of the low half of the board.
3. Break out the desired holes for proper wiring as per fig. 2.
4. Insert the wire through the wire access hole, and mount the detector base to the wall, corner or ceiling with the necessary number of screws and the suitable bracket.
5. Reinstall the PC board by place it on the lower stoppers and push the PCB toward the bottom cover.
6. Access for wiring connections is easy via the terminal block located on the PCB. See fig. 3.
7. Replace the cover by inserting it back in the appropriate closing pin until the closing click is heard.

FIG. 1 - REMOVAL OF FRONT COVER

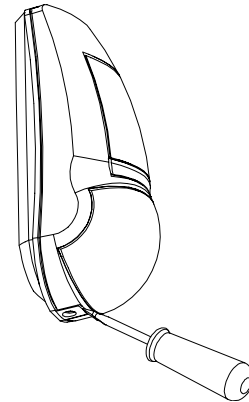
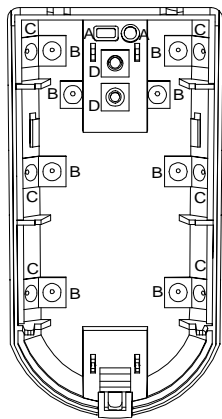


FIG. 2 - KNOCKOUT HOLES



- A. Wire access holes
- B. Use for flat wall mounting
- C. Corner mounting - use all 6 holes. Sharp left or right angle mounting - use 3 holes (top, middle and bottom)
- D. For bracket mounting

FIG. 3 - TERMINAL BLOCK CONNECTIONS



Run the cable through the cable entry hole and connect the wires:

Terminal 1 - Marked " - " (-12V)
Connect to ground of the control unit.

Terminal 2 - Marked " + " (+12V)
Connect to a positive Voltage output of 9 -16Vdc source (usually from the alarm control unit)

Terminals 3 & 4 - Marked " R PIR "
These are the NC output PIR relay contacts. Connect to a normally closed zone in the control unit.

Terminals 5 & 6 - Marked " R MIC "

These are the NC output Microphone relay contacts. Connect to a normally closed zone in the control unit.

Terminals 7 & 8 - 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.

JUMPERS SETTING

JP1 - PIR PULSE WIDTH JUMPER



This setting is for stable environment without air drafts



This setting is for operation within a harsh environment

JP2 - SHOCK / GLASS ADJUSTMENT

Use only during testing and setting



SHOCK - for adjustment of the low frequency sensitivity with potentiometer "SHOCK"



GLASS - for adjustment of the high frequency sensitivity with potentiometer GLASS



OFF - for regular operation

JP3 - LED INDICATION OF ALARM SIGNAL



ON - LED enable



OFF - LED disable

JP4 - SOUND SENSITIVITY ADJUSTMENT



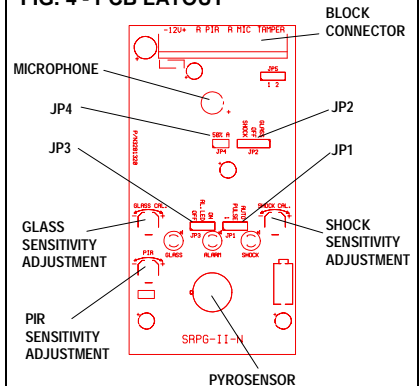
With jumper - reducing the sensitivity of sound detection by 50% *



Without jumper - 100% sensitivity of sound detection.

* Use in small room

FIG. 4 - PCB LAYOUT



GLASS BREAK ADJUSTMENT

To adjust the glass break sensitivity, place the jumper on JP2 below the 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 clock-wise to increase sensitivity, and counter-clock-wise 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)

TEST PROCEDURES.

Wait one-minute warm-up time after applying 12-Vdc power. Conduct testing with the protected area cleared of all people. Make sure to test the unit thoroughly for proper detection.

Walk test

1. Remove front cover.
- Set PULSE jumper JP1 to "1" position, and Set LED jumper JP3 to "ON" position.
2. Replace the front cover.
3. Start walking slowly across the detection area.
4. Observe that the red led lights whenever motion is detected.
5. Allow 5 sec. between each test for the detector to stabilize.
6. After the walk test is completed, You can set the LED jumper to "OFF" position.

NOTE:

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

CHANGING THE LENS

1. Remove the front cover by inserting a flat screwdriver in the appropriate slot.
2. Using a small flat screwdriver, press on left or right side of the installed lens, which will then pop out, from its side right and left holding pins.
3. Select the desired lens and hold it while making sure its upper holding pin is pointed upwards.
4. Snap the lens to its place by pressing again from outside of the front cover until a click is heard, confirming the new lens is tightly inserted. See fig. 8.
5. Replace front cover.

TECHNICAL SPECIFICATIONS (CONT.)

Operating Temperature	-20°C to +50°C (-4°F to +122°F)
RFI Protection	10V/m 30 - 1000MHz
EMI Protection	50,000V of electrical interference from lighting
Visible Light Protection	stable against halogen light 2.4m (8ft) or reflected light
Detection range	Glass up to 10m (90°) PIR up to 18m (WA lens)
Angle of horizontal coverage	105°
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	137mm x 70mm x 53mm (5.3" x 2.8" x 2.1")
Weight	121 gr (4.3 oz)

SHOCK ADJUSTMENT

To adjust the shock setting (increase/decrease sensitivity) place the jumper on JP2 below the SHOCK - 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 clock-wise to increase sensitivity, and counter-clock-wise 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.

FIG. 5 - WIDE ANGLE LENS

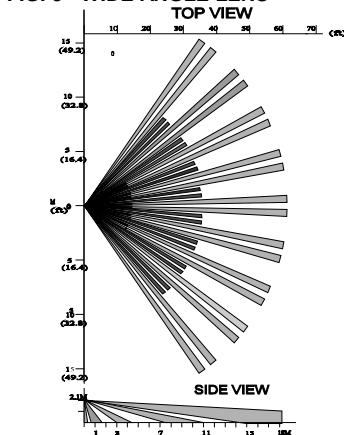
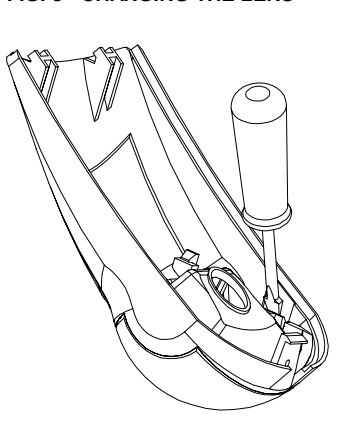


FIG. 8 - CHANGING THE LENS



CROW LIMITED WARRANTY

(Crow) warrants this product to be free from defects in materials and workmanship under normal use and service for a period of one year from the first day of the week and year whose numbers are printed on the printed circuit board inside this product.

Crow's obligation is limited to repairing or replacing this product, at its option, free of charge for materials or labor, if it is proved to be defective in materials or workmanship under normal use and service. Crow shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Crow. Crow shall not be liable for any malfunction that may be caused due to improper installation. The customer should take all precaution necessary to avoid and eliminate Electro-static discharges and/or any other disturbances that might interfere with its operation of the product.

There are no warranties, expressed or implied, of merchantability or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall Crow be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever, even if the loss or damage is caused by Crow's own negligence or fault.

Crow does not represent that this product can not be compromised or circumvented; that this product will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that this product will in all cases provide adequate warning or protection. Purchaser understands that a properly installed and maintained product can only reduce the risk of burglary, 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 this product failed to give any warning. However, if Crow is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of this product, which shall be the complete and exclusive remedy against Crow.

PIR SENSITIVITY ADJUSTMENT

The sensitivity adjustment potentiometer (PIR) should be adjusted according to the security risk level at the installation site. For high-risk locations, the sensitivity should be adjusted close to MIN (9%). In low risk situations, the sensitivity should be adjusted closer to MAX (100%) factory set to 54%. Always walk test and re-adjust if required.

FINAL TESTING

- Make sure to set jumper at JP2 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.

FIG. 6 - CURTAIN LENS

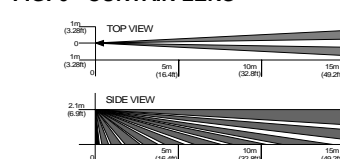
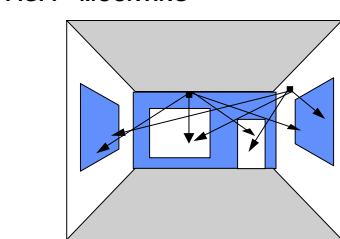


FIG. 7 - MOUNTING



TECHNICAL SPECIFICATIONS

Detection Method	Dual element PIR & electret microphone
Sensitivity	Δ2°C (Δ3.8°F) at 0.6 m/sec (2 ft/sec)
Detection Speed	0.5 - 1.5 m/sec (1.7 - 5 ft/sec)
Power Input	9 - 16 Vdc
Current Draw	Alarm PIR : 16.5 Ma Alarm Shock & Glass : 22 mA Alarm all : 18 mA Standby : 16.5 mA
Bi Directional Temperature Comp.	YES
Pulse Count	1, AUTO
Alarm Period	1.6 sec
Alarm Output	N.C 28Vdc 0.1A 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

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