

### INSTALLATION INSTRUCTIONS

#### GENERAL INFORMATION

The Quest 2260SN is a Microwave/PIR polling loop motion detector that offers unmatched levels of operation with the advanced features listed below.

This detector is designed for use with control panels that support serial number polling loop devices. It is not for use with panels that support only DIP switch addressing.

- Accu-Trak environmental test feature allows the installer to check for environmental disturbances on both the PIR and microwave channels at the same time.
- Conditional Microwave Mode saves current in large installations.
- Automatic adaptation to environmental disturbances.
- Rejection of fluorescent light disturbance.
- Continuous supervision of both PIR and microwave.
- Advanced dual-slope temperature compensation assures optimal detection.
- Vertical and horizontal pattern adjustability.
- Tampered front cover and back case.

This detector is shipped with its standard wide-angle lens installed to provide coverage of 60 ft x 75 ft.

Optional swivel-mounting bracket is available under part number 998SB.

#### SPECIFICATIONS

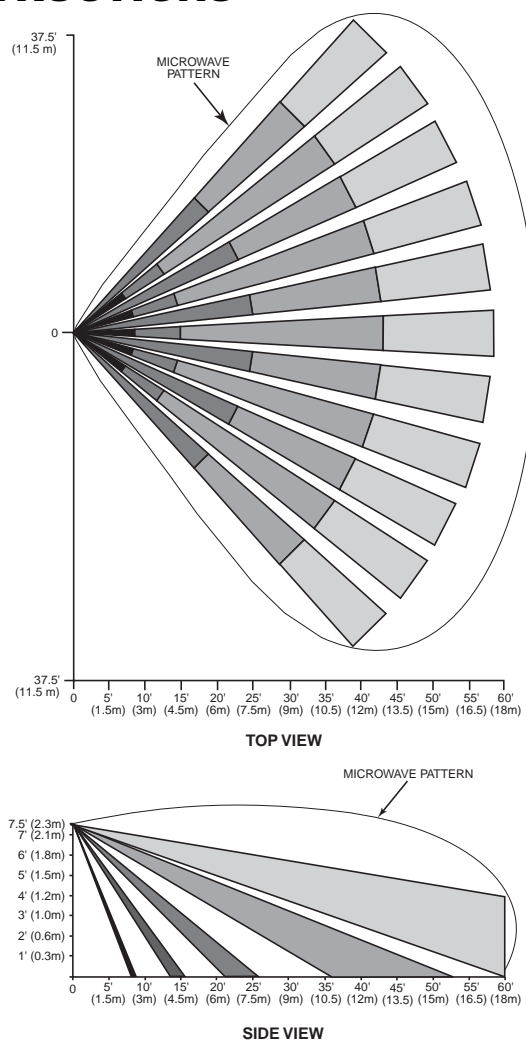
Detection Method:	Dual-technology Microwave/PIR
Coverage:	Standard Lens 60' x 75' (18.3m x 22.9m)
Detection Zones:	Standard Lens: 38 zones (11 long range, 11 over 6 intermediate, 5 over 5 short range, 1 Look-Down Zone)
Pulse Processing:	Standard or Intermediate, selectable via a DIP Switch
Detectable Walk Rate:	0.5-10 ft/sec (0.15-3m/sec)
Mounting Height:	7-8 ft (2.1-2.4m),
Indicator:	Red and Green LED (see LED INDICATIONS); enabled/disabled via a DIP switch
Input Voltage:	9-13VDC at polling loop terminals with reverse polarity protection
Current:	3mA nom. (Conditional Microwave mode) 6mA nom. (Normal mode), with LED disabled 8mA nom. (alarm, with LED enabled) Up to 8mA nominal during warm-up
Standby:	Power source should be capable of at least 4 hours of battery standby
Operating Temp:	-14°F to +122°F (-10°C to +50°C) (0°C to +50°C for UL installations)
Operating Humidity:	Up to 95% RH (max.), non-condensing
Dimensions:	2.8"W x 5.2"H x 2.2"D (71mm x 132mm x 56mm)

#### COVERAGE & LOCATION CONSIDERATIONS

Combined protective patterns are shown in Figure 1 for a nominal mounting height of 7.5 ft (2.3m). The microwave detection pattern shown in Figure 1 represents coverage in open space. In practical application, when the detector is bounded by ceiling, floor, and walls, reflections can occur.

#### SELECTING A MOUNTING LOCATION

The detector responds to changes in energy that occur when an intruder moves into the combined protection pattern. Best coverage will be obtained if the mounting site is selected so that the likely direction of intruder motion is generally across the pattern and angles slightly toward the detector.



#### INSTALLATION HINTS

The detector is remarkably resistant to false alarm hazards, but the following recommendations should be observed.

- Never install the detector in an environment that causes a disturbance in one technology. Good installations start with both LEDs OFF when in the Accu-Trak environmental test mode and there is no target motion.
- Do not mount on an unstable surface. Locate the unit on a sturdy inside wall whenever possible. Avoid sources of vibration such as loose fitting doors and walls that shake when heavy traffic exists.
- Do not install on or close to metal structures such as metal door frames, shelves, etc.
- Do not include space heaters in the protective pattern whenever possible, to avoid rapid temperature changes and vibrations from fans.
- ALL microwave transmission penetrates most building materials (except metal, which reflects transmission). Moving objects outside of the protected area may be detected unless the microwave sensitivity control is kept at as low a setting as possible, to minimize penetration.
- Make sure the detection area does not have obstructions (curtains, screens, large pieces of furniture, plants, etc.) that may block the PIR portion of the coverage pattern.

## MOUNTING

Mount the unit to a firm vertical surface. The wall wiring hole should be no more than 5/16" (8mm) diameter.

1. Remove the front cover by twisting a screwdriver blade in the groove between cover and base at the bottom edge of the case and then lifting the cover off.
2. Remove the circuit board: Loosen (do not remove) the vertical adjustment screw, slide the PC board down, then spread the PCB holding tabs (see Figure 3), and remove the PC board.
3. Break out desired mounting and wire entry holes in the back case. Refer to Figure 2. Knockout screw holes "A" in the back case are for normal surface mounting on a wall. Knockout screw holes "B" are for corner mounting.

Also break out the wire entry hole marked X in Figure 2. If surface wiring is to be used, break out the section at the bottom of the back case, and run the wiring up the wiring channel at the back of the case to hole "X".

If the back case tamper is to be used, use an additional screw through hole C to secure the back case to the mounting surface.

4. Feed wiring (unpowered) coming from the wall through the wire access hole near the top of the detector case back. If surface wiring is used, use bottom access hole and use the wiring channel in the case back for routing the wires.
5. Mount the base and reinstall the PC board.
6. Vertically align the PC board in accordance with Table 1 (**Vertical Pattern Adjustment** section below) before tightening the vertical adjustment section.
7. Refer to WIRING CONNECTIONS section before replacing cover.

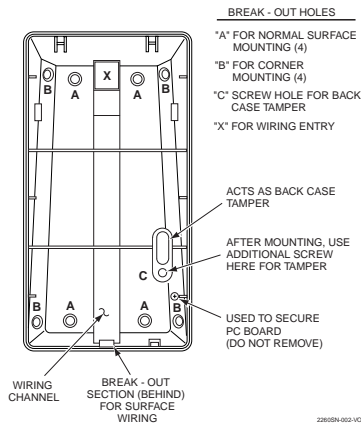


Figure 2. CASE BACK

## WIRING CONNECTIONS

All wires should have been fed through the wire access slot at the top of the detector base near the terminal block. Connect polling loop wiring to the screw terminals as shown in Figure 3. Seal any openings in the base with foam or RTV (not supplied) to prevent drafts and insects from entering the unit. Apply power only after all connections have been made and are inspected.

## VERTICAL PATTERN ADJUSTMENT

The protection pattern can be moved up or down by vertical adjustment of the lens as follows.

1. Remove the front cover as indicated in step 1 of the MOUNTING section.
2. Loosen the PCB screw on the lower right of the board (see Figure 3), and slide the board into the appropriate position, using the scale to the right of the screw. Use Table 1 which shows the proper setting for the desired range.

Table 1. Vertical Adjustment Settings

Desired Range	PCB Position
30 ft (9.1m)	position 4
40 ft (12.2m)	position 2
50 ft (15.2m)	position 1
60 ft (18.3m)	position 0

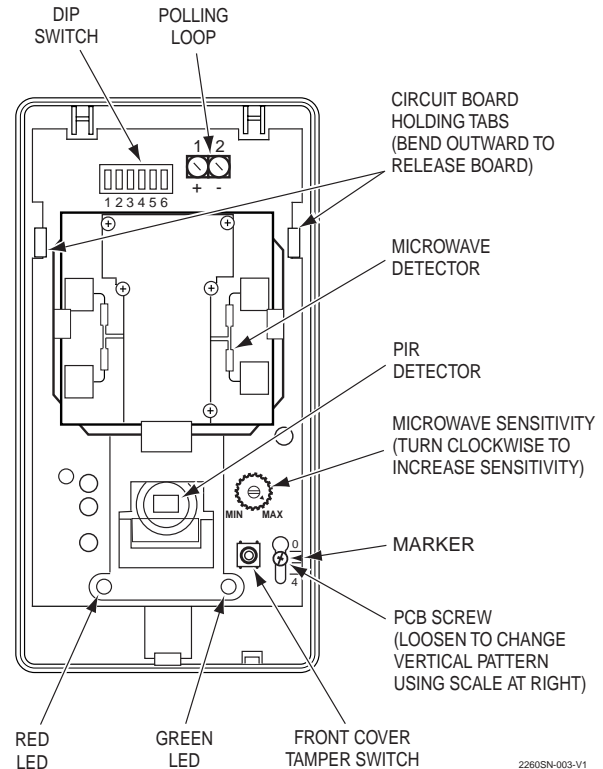
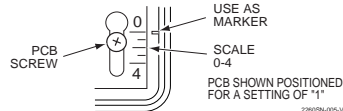


Figure 3. INTERIOR OF DETECTOR

## HORIZONTAL PATTERN ADJUSTMENT

The protection pattern can be moved to the left or right by horizontal adjustment of the lens, as follows.

1. Remove the front cover as indicated in step 1 of the MOUNTING section.
2. Remove the lens holder in the front cover by squeezing the two outer sides of the holder together, releasing it from the side clips (see Figure 4). Then pull the holder out, exposing the lens.
3. Slide the lens slightly to the left or right to change the horizontal pattern as desired.
4. Reinstall the lens holder. It should snap firmly in place beneath the holding tabs on each side.
5. Replace the front cover.

**IMPORTANT:** After any adjustment, conduct a walk test to ensure proper coverage of the area to be protected. See the Test Procedures section.

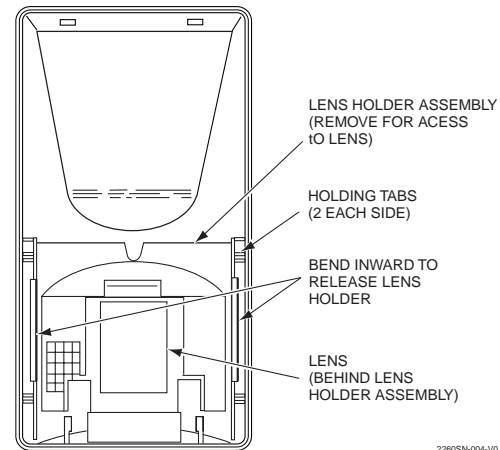


Figure 4. ACCESSING THE LENS

## ADJUSTMENTS AND SELECTIONS

### Microwave Sensitivity Control

Turn the potentiometer clockwise to increase sensitivity.

**DIP Switch Settings** (use a small pointed tool to move the switch handle)

No.	Position	Function and Explanation
1	ON:	<b>Supervision Failure Mode</b> SUSPEND PIR: In case of microwave channel failure, the unit becomes non-operational.
	OFF (default):	REVERT TO PIR: In case of microwave channel failure, the unit reverts to the PIR only mode.
2	ON:	<b>Fluorescent Filter Mode</b> 50Hz FLTR: Digital fluorescent light filter set for 50Hz.
	OFF (default):	60Hz FLTR: Digital fluorescent light filter set for 60Hz.
3	ON (default):	<b>LED Enable/Disable</b> ENABLE: LEDs are enabled.
	OFF:	DISABLE: LEDs are disabled.
4	ON (default):	<b>Microwave Operation Mode</b> NORMAL: Microwave channel always on.
	OFF:	CONDITIONAL: Microwave channel on only when PIR activity is detected.
5	ON:	<b>Signal Processing Mode</b> INTERMEDIATE: Use this setting in normal environments.
	OFF (default):	STANDARD: Use this setting for maximum false alarm immunity. This setting tolerates environmental extremes and is the recommended setting.
6	ON:	<b>Accu-Trak Environmental Test Mode</b> ENV TEST: Accu-Trak environmental test is enabled.
	OFF (default):	NORMAL: Accu-Trak environmental test is disabled.

**LED INDICATIONS** (when LEDs are enabled)

MODE	LED INDICATIONS
Power Up	Red LED is ON for 30 seconds
Alarm	Red LED ON
Accu-Trak Test Mode	Green LED flashes for microwave detection Red LED flashes for PIR detection
Supervision Failure	Red LED flashes for PIR failure once per 3 sec. Green LED flashes for microwave failure once per 3 sec.

### SERIAL No. ID

This unit does not utilize DIP switches to set its zone number (ID). Each unit has a unique factory-assigned serial number which must be entered into the control panel during the zone programming procedure. Therefore, this motion sensor can be used only with a control that supports serial number devices.

Note that this motion sensor's unique factory-assigned serial number can be found on the bar code label on its PC board.

The motion sensor's serial number can be entered by one of the following methods:

- Downloading (Zone Definition screen of Compass software). Recommended for large installations and installations where foot traffic cannot be controlled.
- Entering through the keypad at the "INPUT S/N" prompt during manual zone programming (see Important note below).
- Activating the detector twice while at the "INPUT S/N" prompt during manual zone programming.

If entering manually, be sure that other polling loop sensors are not activated so that they cannot send a signal to the control while this motion sensor is being programmed (mask motion sensors, don't open/close doors, etc.).

#### IMPORTANT

To be sure that other polling loop devices are not activated when entering serial numbers manually, power the system down, disconnect the polling loop at the control, power back up again, and immediately enter the program mode. Then proceed to Step 1 in the following section. Remember to reconnect the polling loop when programming is complete, powering the system down first.

### To enter the unit's serial number

- Using the control panel's keypad, enter Zone Programming mode.
- Enter the Zone number, Zone Type, and other zone information for the motion sensor, pressing [\*] to advance from prompt to prompt.
- At the "Input Type" prompt, enter "6" for SL (Serial Polling Device) and press [\*].
- At the "INPUT S/N" prompt, either enter the serial number manually (and a "1" for the loop number), or fault the motion sensor (the keypad will "beep" to confirm signal), then wait 3-6 seconds and fault the motion sensor again (the keypad should beep again to confirm). The motion sensor should now be enrolled. A "1" should appear under the "L" on the zone summary screen. If it does not, press [\*] and enter the loop number manually at the next screen.
- Press [\*] to continue programming other devices, or enter "00" to quit. For detailed information, refer to the Zone Programming section in the control panel's Installation Instructions.

### TAMPER

Removal of the cover causes a front cover tamper switch to open. Removal of the detector from the wall causes the back tamper switch to open (if back case is tampered using a screw through the tamper hole; see Figure 2). The control panel is automatically notified via the polling loop when either of these events occur.

### TEST PROCEDURES

On power-up, testing must not begin until the LED extinguishes after first applying power to signify warm-up is complete, about 30 seconds. If the LED begins to flash at a constant rate, refer to the section on SUPERVISION.

#### Accu-Trak Environmental Test Mode

ADEMCO's unique Accu-Trak environmental test feature easily provides an environmental check for potential false alarm sources on both the PIR and microwave channels. Simply set DIP Switch #6 to ON.

Both microwave and PIR information are viewable simultaneously on the two LEDs, providing crisp, immediate feedback (see below).

**NOTE:** When Accu-Trak environmental test mode is selected, an alarm signal is reported to the control panel to prevent leaving the detector in the test mode.

TEST	LED	ACCU-TRAK LED INDICATIONS
PIR	RED	LED flashes when potential false alarm source is detected, such as fans or heating duct.
Microwave	GREEN	LED is ON when potential false alarm source is detected, such as a fan or mylar balloon.

#### IMPORTANT:

Detection coverage can only be verified by walk-testing in the normal operating mode (DIP Switch #6 set to OFF).

#### Testing in Normal Operating Mode

After testing with the unique Walk-Test mode, the detector should be tested in the Normal Operating Mode with the following steps:

- Remove the front cover and ensure that DIP Switch #6 is set to OFF for Normal Operating Mode.
- Set DIP Switch #5 to the Pulse Processing Option that will be used for this installation.
- Enable the LED by setting DIP Switch #3 ON.
- Replace the front cover and walk through the protective zones, observing that the detector's red LED lights whenever motion is detected. If necessary, re-adjust the microwave sensitivity to the minimum level required for satisfactory detection and repeat the Walk Test.
- After Walk-Testing is complete, the LED may be disabled, if desired (DIP Switch #3 OFF).

## SUPERVISION

This motion sensor is equipped with advanced supervision of both the PIR and microwave channels. If a microwave channel failure occurs, the sensor will continue to operate as a dual-element PIR sensor (when DIP switch #1 is set to ON) in Standard Signal Processing mode regardless of the processing option chosen. Even though some operation is maintained, the unit should be replaced as soon as possible. If a PIR failure occurs, the unit becomes non-operational.

### Supervision Failure Indications

If a supervision failure occurs, it will be indicated by the appropriate LED flashing once every 3 seconds, provided the LED enable option was chosen by DIP switch #3. If a PIR failure occurs, the RED LED will flash; if a microwave failure occurs, the GREEN LED will flash. If the unit has defaulted to PIR-only operation as a result of a microwave failure (DIP switch #1 is set to ON), the RED LED will light when an alarm occurs while the GREEN LED continues to flash.

All troubles above will be reported to the control panel.

## MAINTAINING PROPER OPERATION

In order to maintain the detector in proper working condition, it is important that the user observe the following:

1. Power should be provided at all times. Loss of power to the unit will result in the alarm contacts reverting to an alarm state. The units DC source should have standby power available for at least 4 hours of operation during emergencies.
2. Units should never be re-aimed or relocated without the advice or assistance of the alarm service company.
3. The physical surroundings of the protected area should not be changed. If furniture or stock is moved, or air conditioning or additional heating is installed, the system may have to be readjusted by the alarm service company.
4. Walk tests should be conducted frequently (at least weekly) to confirm proper coverage by each detector.

## TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user, as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts.

Recommendations must be included for a specific program of frequent testing (at least weekly) to ensure the system's operation at all times.

## FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**ADEMCO  
GROUP**

165 Eileen Way, Syosset, New York 11791  
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K5510 12/00

## WARNING! THE LIMITATIONS OF YOUR MICROWAVE/PASSIVE INFRARED MOTION DETECTOR

While the Intrusion Detector is a highly reliable intrusion detection device, it does not offer guaranteed protection against burglary. Any Intrusion Detection device is subject to compromise or failure to warn for a variety of reasons:

- These Motion Detectors can only detect intrusion within the designed ranges as diagrammed in this installation manual.
- The passive infrared motion sensor in this Motion Detector does not provide volumetric area protection. It does create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams.
- Passive Infrared Detectors cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows.
- Metal objects (or other reflectors, such as foil faced insulation or water in bottles) can alter the microwave sensors protection pattern.
- Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce the detection ability of the Passive Infrared Motion Detector.
- Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.
- This Passive Infrared Detector will not operate without appropriate DC power connected to it or if the DC power is improperly connected (i.e. reversed polarity connections).
- Passive Infrared Detectors, like other electrical devices, are subject to component failure. Even though they are designed to last as long as 10 years, the electronic components could fail at any time.

We have cited some of the most common reasons that a Passive Infrared Motion Detector can fail to catch intrusion. However, this does not imply that these are the only reasons and therefore, it is recommended that weekly testing of this type of unit, in conjunction with weekly testing of the entire alarm system, be performed to ensure that the detectors are working properly.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

## ADEMCO Limited Warranty

Alarm Device Manufacturing Company, a Division of Pittway Corporation, and its divisions, subsidiaries and affiliates ("Seller"), 165 Eileen Way, Syosset, New York 11791, warrants this detector to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 36 months from the date stamp control on the product. Seller's obligation shall be limited to replacing, at its option, free of charge for materials or labor, a detector which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the detector is altered or improperly repaired or serviced by anyone other than Ademco factory service. In case of defect, return the detector to ADI or an authorized distributor for an immediate replacement.

THERE ARE NO WARRANTIES, EXPRESS 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 SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

Seller does not represent that its detector may not be compromised or circumvented; that the detector will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the detector will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of a burglary, robbery, fire 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 as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THE DETECTOR FAILED TO GIVE WARNING. However, if Seller is held liable, whether directly or indirectly, for any loss or damage arising under this Limited Warranty or otherwise, regardless of cause or origin, Seller's maximum liability shall not in any case exceed the purchase price of the DETECTOR, which shall be the complete and exclusive remedy against Seller. This warranty replaces any previous warranties and is the only warranty made by Seller on this detector. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.