SpreadNet™

Model SN940-PIR

RF Passive Infrared Sensor Installation Instructions

The SpreadNet Model SN940-PIR (Passive Infra-Red) Transmitter uses the same Spread Spectrum technology as the other products in the SpreadNet line. The use of Spread Spectrum technology provides higher power, lower noise levels, less interference, and longer range than obtainable with most single-frequency RF transmitters, resulting in increased reliability.

An internal lock-out circuit extends battery life in high activity areas. Once an alarm has been transmitted, the lock-out circuit prevents additional alarm transmissions for a period of two minutes.

FEATURES:

- Spread Spectrum Technology
- Variable Pulse Count, Jumper Selectable
- EEPROM Memory
- Simple Installation
- 100 mW Transmitter Power
- Two-minute Lock-out Circuit
- Automatic Walk-Test Mode
- Programmable Check-In Rate
- Cover Tamper Switch
- Lithium Batteries (Included)
- 5-year Battery Life
- Interchangeable Lenses

MOUNTING LOCATION

The PIR Sensor may be mounted flush against the wall or in a corner. (See Figure 1 below.) Do NOT mount the sensor near screens or large metal surfaces, as this may affect the operation of the RF transmitter. When selecting a location for the sensor, avoid locations near or facing heating/air conditioning ducts, which could affect the PIR device. We recommend that you verify the RF signal prior to permanently mounting the sensor. (See "Scan for One Transmitter" in SN900-PROG RF Programming Manual P/N 5-051-163-00.)

Note that the sensor should be mounted at a height of 7'6" when using the Wide Angle (Standard) or Barrier Lens, and at a height of 4' when using the Pet-Alley Lens. (See detection patterns on back page.)

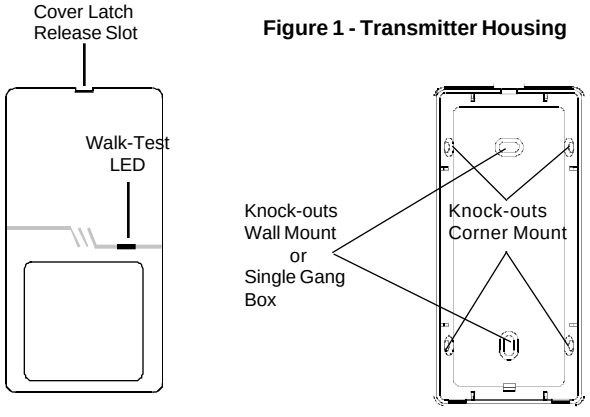

Figure 1 - Transmitter Housing

MOUNTING PROCEDURE

To mount the PIR Sensor, open its housing and remove the PC board.

To open the housing, orient the unit as shown in Figure 1. Insert a small screwdriver or pen point into the slot opening at the top of the sensor housing and gently push in, releasing the tab holding the cover in place. Remove the cover and release the tab near the bottom of the housing which holds the circuit board in place. Remove the printed circuit board.

Caution: Do **NOT** use the antenna to remove the board. Handling or bending the antenna could damage the transmitter or reduce range.

Remove the knock-outs, mark and drill the mounting holes, and mount the sensor housing in the desired location. Re-install the circuit board with the orientation shown in Figure 2 (batteries to the right).

SETUP AND CONFIGURATION

After locating the sensor to provide optimum field of view and RF reception, you are ready to adjust the sensitivity. (Refer to the section on Setting Pulse Count). Sensor sensitivity is determined by the Pulse Count required to produce an alarm condition. Figure 2 (at right) shows for the location of the Pulse Count Jumper (W1).

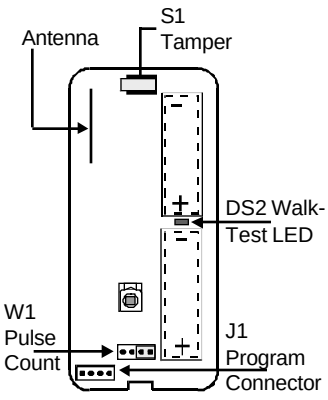

Figure 2 - PCB Layout

SETTING THE PULSE COUNT

The SN940-PIR employs a dual element pyro-electric PIR device to detect changes in infrared energy. The sensor also uses "single edge" signal processing. This arrangement, coupled with true "pulse count" processing, gives the SN940-PIR superior catch performance without compromising false alarm immunity.

The SN940-PIR can be set up for pulse counts of 2, 3, or 4.

NOTE: Do Not set Pulse Count to 3 or 4 when using the optional Barrier Lens.

Each of the 35 fingers is split into 2 separate detection zones (A and B in Figure 3). Any change in infrared energy within a zone is considered one (1) pulse. If two zones detect changes in infrared energy, it represents two (2) pulses. Three zones registering changes would be three (3) pulses, etc..

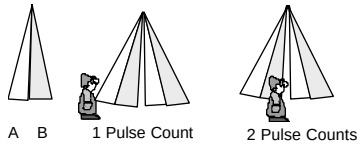

Figure 3 - Pulse Count

Note: All zones must detect the infrared change within a specified amount of time.

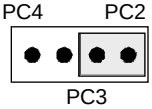

Figure 4 Setting Pulse Count

Figure 4 (at left) shows how to select the desired Pulse Count. To select a Pulse Count of 2 (factory default), place the Jumper over the pins farthest to the right (PC2). The center two pins (PC3) select a pulse count of three. The pins farthest to the left select a pulse count of four. The jumper is shown in the PC2 position.

ACTIVATING THE BATTERIES

Before the transmitter can be programmed and tested, the batteries must be activated. This is accomplished by removing the Battery Activator Tab. Figure 5 shows the location of the Tab.

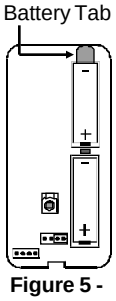

Figure 5 - Battery Tab Location

AUTOMATIC WALK-TEST MODE

Removing the front cover from the transmitter signals a Tamper alarm and automatically places the SN940-PIR in the Walk-Test Mode. The sensor remains in this mode for a period of 5 minutes after the cover has been replaced. Activate the batteries and re-install the cover to Walk-Test the unit.

With the transmitter in the Walk-Test Mode, the Walk-Test LED is enabled and the two-minute hold out circuit is disabled. Motion sensed within the view area of the sensor will cause the LED to light, indicating an alarm condition. With the hold out circuit disabled, the sensor will transmit an alarm signal each time the LED lights.

NOTE: When the sensor is in the Walk-Test Mode, all movement within the zone (field of view) is detected (depending on Pulse Count setting) and causes the LED to light. The sensor remains in the Walk-Test Mode while the cover is removed **and** for a period of 5 minutes after replacing the cover. Remove the batteries (or replace the battery tab) if the cover is to be left off for extended periods of time, as the LED and transmitter will quickly drain the batteries.

NOTE: For continued reliability, Walk-Test the SN940-PIR at least once a year.

U.L. Compliance

For Grade A household burglar alarm and household fire warning system applications using the C&K System 2316 Control Panel:

All transmitters must be supervised.

Only one transmitter may be installed per zone.

PROGRAMMING THE PIR TRANSMITTER

To program the PIR Transmitter, refer to the SN 900-PROG Programming Manual (P/N 5-051-136-00).

TRANSMITTER DEVICE ID

After the SN940-PIR Transmitter has been programmed (as outlined in the SN900-PROG RF Programming Manual) and tested, fill out the Transmitter Device I.D. Label (included in the installation package) and mount it inside the sensor.

The following procedure is recommended for mounting the label:

1. Open the front cover of the sensor.
2. Remove the PCB from the housing.
3. Remove the adhesive backing from the label and place the label at the bottom of the rear housing.
4. Replace the PCB and close the cover.

CHANGING THE FRESNEL LENS

There are two (2) optional Fresnel lenses* shipped with the SN940-PIR in addition to the standard lens. The Pet-Alley Lens blocks lower PIR zones to exclude pets from the field of view, while the Barrier Lens blocks the outer zones for long, narrow applications.

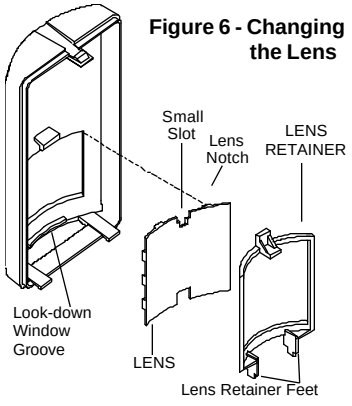

Figure 6 - Changing the Lens

To change the lens, first open the sensor's cover. Removing the cover places the transmitter in the Walk-Test Mode; therefore, remove the batteries to preserve battery life. Next, press down on the top of the lens retainer until the retainer clip is free of the housing (see Figure 6). If you are installing the Pet-Alley lens, you must also install the look-down mask (provided). Install the Pet-Alley or Barrier Lens, making sure that the small slot is pointing toward the top of the sensor, as shown in Figure 6. Finally, replace the lens retainer, re-install the batteries, replace the cover, and Walk-Test the sensor.

*Lens Option Kit Part Number 0-000-027-01.

SPECIFICATIONS

- **Dimensions:**
  5.25" l x 2.4" w x 1.7" d
  (13.3 cm x 6.1 cm x 4.3 cm)
- **Input Power:**
  two 3.6VDC AA lithium batteries
- **Output Power:**
  100 mW
  transmitting period - 7.6 mSec
- **Replace Batteries only with**
  C&K Model # SN33L-BAT
  SAFT Model # LS6
  Tadiran Model # TL-2100 /S

  NOTE: Replace Batteries every 5 years
- **Supervisory Rate:**
  30 - 300 sec (10 sec intervals)
  0 is unsupervised
- **Operating Environment:**
  32° to 140° F (0° to 60° C);
- **Operating Frequency:**
  902 - 928 MHz Spread Spectrum
- **RF Emission standards:**
  USA: FCC Part 15
  CANADA: DOC
- **Weight:**
  5.5 oz. (156 g)
- **PIR fields of view:**
  Dual element
  22 long range zones
  7 intermediate
  4 lower
  2 look-down
- **PIR Range:**
  35' x 35' (10.5 m x 10.5 m)

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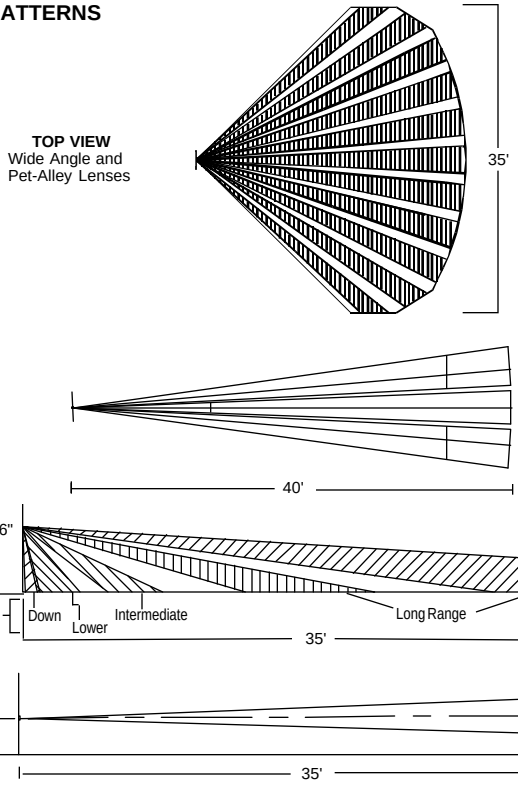
PROTECTION PATTERNS



LIMITED WARRANTY

Seller warrants its products to be in accordance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for **18 months** from the date stamp control on the product; or for products not having an C&K Systems date stamp, for **12 months** from the date of original purchase, unless the installation instructions or catalogue sets forth a shorter period, in which case the shorter period shall apply.

Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. This warranty is void if the product is altered or improperly repaired or serviced by anyone other than an authorized C&K factory service center. Contact your local C&K distributor for the service center location nearest you.

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 Seller's own negligence or fault.

Seller does not represent that its product may not be compromised or circumvented; that the product will prevent any personal injury or property loss by burglary, robbery, fire, or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm system may only reduce the risk of burglary, robbery, or fire without warning, but it is not insurance or 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 THAT THE PRODUCT FAILED TO GIVE WARNING. However, if Seller be 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 product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against Seller.

This warranty replaces all previous warranties and is the only warranty made by C&K on this product. No increase or alteration, written or verbal, of the obligation of this warranty is authorized.

FCC NOTICE

The Model SN940-PIR PIR Transmitter generates and uses radio frequency energy. If not installed and used in accordance with the manufacturer's instructions, it may cause interference to radio and television reception. The Passive InfraRed (PIR) Transmitter has been tested and found to comply with the specifications in Part 15 of FCC Rules for Class B Computing Devices and FCC Part 15 Subpart C, Specifications for Intentional Spread Spectrum Radiators.

If this equipment causes interference to radio or television reception - which can be determined by turning the equipment on and off - the installer is encouraged to correct the interference by one or more of the following measures: 1) Reorient the antenna of the radio/television. 2) Connect the AC transformer to a different outlet so the control panel and radio/television are on different branch circuits. 3) Relocate the control panel with respect to the radio/television.

If necessary, the installer should consult an experienced radio/television technician for additional suggestions, or sent for the "Interference Handbook" prepared by the Federal Communications Commission. This booklet is available from the U.S. Government Printing Office, Washington D.C., 20402, stock number 004-000-00450-7.

CAUTION: C&K does not support field changes or modifications to any of the SpreadNet RF equipment unless they are specifically covered in this manual. All adjustments must be made at the factory under the specific guidelines set forth in our manufacturing processes. Any modification to the equipment could void the user's authority to operate the equipment and render the equipment in violation of FCC Part 15, Subpart C, 15.247.

This device complies with Part 15 of the 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.