

## Operating Instructions

The 2GIG-PIR1-345 Passive Infrared Motion Detector is a wall-mounted unit with wide angle motion protection. When set to High Sensitivity Mode, the PIR has a maximum range of 30 ft. deep x 50 ft. wide. The PIR is pet immune up to 55 lbs.

### Installation/Mounting & Programming Guidelines

To setup the motion detector:

1. Remove the screw from the bottom of the case and open the PIR (see *Figure 1*).
2. Install the recommended battery, making sure to observe the correct polarity.
3. Set the left jumper (PET IMMUNITY) to either 33 lbs. (15 kg) or 55 lbs (25 kg; default). (see *Figure 2*)
4. Set the right jumper (SENSITIVITY) to either LO (default) or HI (see *Figure 2*).
5. Press and release the tamper switch to begin the power up process.
6. Wait 10 seconds for the power up delay.
7. Enter the programming mode for a wireless device on the 2GIG alarm control panel.
8. Enroll the PIR by pressing and holding the tamper switch (see *Figure 2*) on the PIR for 2 seconds (while the 2GIG alarm control panel is in learn mode).

To mount the motion detector, with or without the bracket, following the corresponding guidelines:

#### **With Bracket** (see *Figure 2*)

1. Use short Phillip's head screws to screw part **A** in to part **B**.
2. Select either the corner mount (part **C**) or flat wall mount (part **D**).
3. Mount the selected bracket (**C** or **D**) at a height of 7.5 ft (2.3 m) on the wall using the supplied long screws with anchors.
4. Place the assembly of parts **A** and **B** on the shaft of bracket **C** or **D**.
5. Screw a Phillip's head screw with washer into the top of part **B** to hold the assembly to the shaft of bracket **C** or **D**.
6. Attach the main body of the PIR to the mounted back with the screw at the bottom of the case.

#### **Without Bracket** (see *Figure 3*)

1. For corner mounting use the supplied long screws with anchors and mount the PIR case back using either the right two corner mount screw holes (A) or the left two corner mount screw holes and mount the PIR back at a height of 7.5 ft (2.3 m). Attach the main body of the PIR to the mounted back with the screw at the bottom of the PIR.
2. For mounting the PIR on a flat wall use the supplied long screws with anchors and mount the PIR case back using the 2 wall mount screw holes in the center of the back and mount the back at a height of 7.5 ft (2.3 m). Attach the main body of the PIR to the mounted back with the screw at the bottom of the PIR.

### Installations with Pets

Follow these instructions to take full advantage of the pet immunity features in the 2GIG-PIR1-345:

1. Mount the 2GIG-PIR1-345 so the center of the PIR is mounted 7.5-8 feet above floor level.
2. **Set the right jumper (SENSITIVITY) to Low (default).**
3. Set the left jumper (PET IMMUNITY) to either 33 lbs. (15 kg) or 55 lbs (25 kg; default)
4. Mount the PIR where pets cannot come within six feet of the unit by climbing on furniture, boxes, or other objects.
5. Do not aim the PIR at stairs or furniture, boxes, or other objects that can be climbed on by pets.

**NOTE:** The 2GIG-PIR1-345 will provide immunity to false alarms for an individual animal or a group of animals whose total weight is equal to or less than 55 pounds when the room temperature is above 50° F and below 90° F. If the optional mounting bracket is used, it should be mounted with no tilt.

#### **If optional mounting bracket is used:**

PIR Mounting Height	Tilt / Click Setting
7.5-8 feet	0 No Tilt - Optimum Pet Immunity

### Environmental and other useful information

While the 2GIG-PIR1-345 PIR 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. The following issues should be considered during new installations or when troubleshooting:

1. If the premise has pets, make sure to follow the instructions in this manual concerning installation with pets.
2. This PIR has built-in protection, which keeps bugs from getting into the sensor area and causing false alarms. This does not prevent insects from crawling across the lens of the PIR, which in turn will cause the PIR to trigger an alarm.
3. Infrared energy can be reflected off any glossy surface such as mirrors, windows, floors or counter tops with glossy finish, and slick finished concrete. Some surfaces will reflect less than others will. For example, PIRs can see a change in infrared energy reflected off any reflective surface even if the heat or cold source is not within the detection pattern of the PIR.
4. Windows cannot only reflect infrared energy, but they can also allow sunlight or lights from cars to pass through to the PIR. For example, a PIR can detect a quick change in infrared energy if sun light comes through a window (which may not be detected by the PIR) and shines on a hardwood floor (which can be detected by the PIR). If the change in infrared energy is quick enough on the floor, the PIR can trigger an alarm. The same applies if the PIR "covers" the window, even though the pattern of protection cannot "see" through glass. Lights from a passing car can also pass through the window at night and directly into the lens of the detector.
5. Heating and A/C ducts are also important to take into consideration because if they blow air onto an object within the fields of view, the temperature of that object could change quickly enough for the detector to see a change in infrared energy. Detectors cannot see air current, only the change in temperature of a physical object.
6. The PIR senses change in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 95° to 120°F, the detection performance can decrease.
7. Make sure the area you wish to protect does not have obstructions (curtains, screens, large pieces of furniture, plants, etc.) that may block the pattern of coverage provided by the PIR.
8. Anything that can sway or move due to air current can cause a change in infrared energy within the fields of view. Heating and A/C ducts, drafts from doors or windows can cause this to happen. Other objects to be aware of are curtains, blinds, balloons, loose paper, plants, hanging banners or baskets, etc.
9. Make sure the PIR is mounted on a solid surface and does not allow for any vibration. Vibration will not only cause the PIR to move a little, but this will also cause the fields of view in the room to move with respect to the PIR. A little vibration can go a long way with the fields of view, thus the PIR may see a change in energy.
10. An installation may require a PIR to be aimed at a door. The PIR may "detect" door movement before the door contact can initiate an entry delay, causing the PIR to trigger an alarm. If the PIR has to be installed this way, it is recommended that the alarm control panel program set the PIR as an entry delay.
11. The PIR detects intrusion only within the pattern of coverage as diagrammed in this manual.
12. The PIR does not provide volumetric area protection.
13. The PIR creates multiple beams of protection and intrusion can only be detected in unobstructed areas covered by those beams.
14. The PIR cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows.
15. Tampering with, masking, painting, or spraying of any material on the PIR lens or any part of the optical system can reduce the detection ability of the PIR.
16. The PIR will not operate without the appropriate battery installed, or if the battery is weak or improperly connected (i.e., reversed polarity).
17. The PIR, like other electrical devices, are subject to component failure. Even though the 2GIG-PIR1-345 is designed to last as long as 10 years, the electronic components in it could fail at any time.

Most of the common reasons that the 2GIG-PIR1-345 can fail to detect intrusion or cause false alarms are mentioned, however, this does not mean that these are the only reasons.

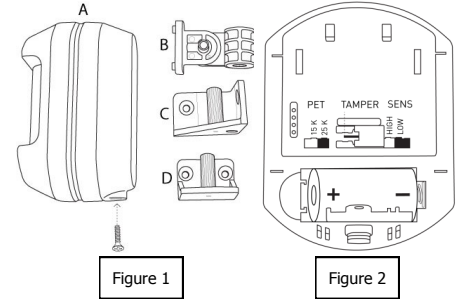
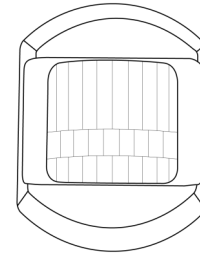


Figure 1

Figure 2

A. Corner mounting screw holes  
B. Flat wall mounting screw holes  
C. Bracket screw holes

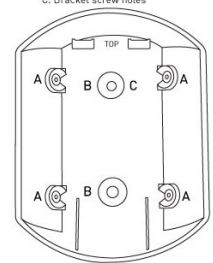


Figure 3

## Testing

Before placing the sensor in Walk or RF Test mode, make sure the 2GIG alarm control panel is in Install or User Walk Test mode.

### Walk/RF Test

- Place the supplied magnet over the arrow on the left side of the PIR, (the LED will light to indicate the magnet has been detected) and then remove the magnet.
- Move in the area that is to be covered by the PIR and make sure that the LED on the PIR flashes every time you move. This will continue for one minute to allow you to check the coverage of the PIR beam. **NOTE: There is a 3 second delay between flashes.**

**NOTE: The following can cause a false alarm while testing:**

- Leaving the cover off;
- Removing jumpers;
- Positioning the PIR in direct sunlight or close proximity to a heating or A/C duct.

Note: It is recommended that a system test be performed per the Operation & User's Guide at least once a year.

## Battery Installation & Replacement

Remove back cover by unscrewing bottom screw and pull back cover from bottom to top. Use only the recommended replacement batteries (see *Specifications*). Be sure to observe the polarity.

**WARNING! The polarity of the battery must be observed, as shown (see Figure 1). Improper handling of lithium batteries may result in heat generation, explosion or fire, which may lead to personal injuries. Replace only with the**

**Batteries must not be recharged, disassembled or disposed of in fire.** Disposal of used batteries must be made in accordance with the waste recovery and recycling regulations in your area.

Keep away from small children. If batteries are swallowed, promptly see a doctor.

**California Only:** This Perchlorate warning applies only to Manganese Dioxide Lithium cells sold or distributed ONLY in California, USA. Perchlorate Material-special handling may apply.

See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).

## Specifications

Wireless Signal Range	350 ft., open air, with 2GIG Wireless Alarm Control Panel
Code Outputs	Alarm; Alarm Restore; Tamper; Tamper Restore; Supervisory; Low Battery
Transmitter Frequency	345.000 MHz (crystal controlled)
Transmitter Frequency Tolerance	± 15 kHz
Transmitter Bandwidth	24 kHz
Modulation Type	Amplitude Shift Keying—On/Off Keying (ASK-OOK)
Unique ID Codes	Over one (1) million different code combinations
Supervisory Interval	70 minutes
Peak Field Strength	Typical 50,000 uV/m at 3m
Sensor Type	Quad element
Pet Immunity	Selectable: 15 kg (33 lbs.) or 25 kg (55 lbs.; default)
Sensitivity Jumper	Selectable: High or Low (default)
Suggested Mounting Height	7.5 ft. (2.3 m)
Sensor Range	30 ft. (9.1 m) x 50 ft. (15.2 m)
Maximum Horizontal Sensing Angle	90°
Dimensions (LxWxH)	3.2 x 2.5 x 1.9 in. (8.12 x 6.35 x 4.82 cm)
Weight (including battery & bracket)	3.7 oz. (104.9 g)
Housing Material	ABS plastic and poly-carbonate
Color	White
Operating Temperature	32° to 120°F (0° to 49°C)
Relative Humidity	5-95% Non-Condensing
Battery (included, not installed)	One (1) Panasonic CR123A, or equivalent Lithium battery
Regulatory Listings	ETL, FCC Part 15, Industry Canada
Warranty*	Two (2) years
Included Accessories	Mounting brackets, two (2) long Phillip's head screws, two (2) plastic wall anchors, magnet

### FCC COMPLIANCE STATEMENT\*

This device complies with FCC Rules and Regulations as Part 15 devices, as well as Industry Canada Rules and Regulations.

Operation is subject to the following two conditions:

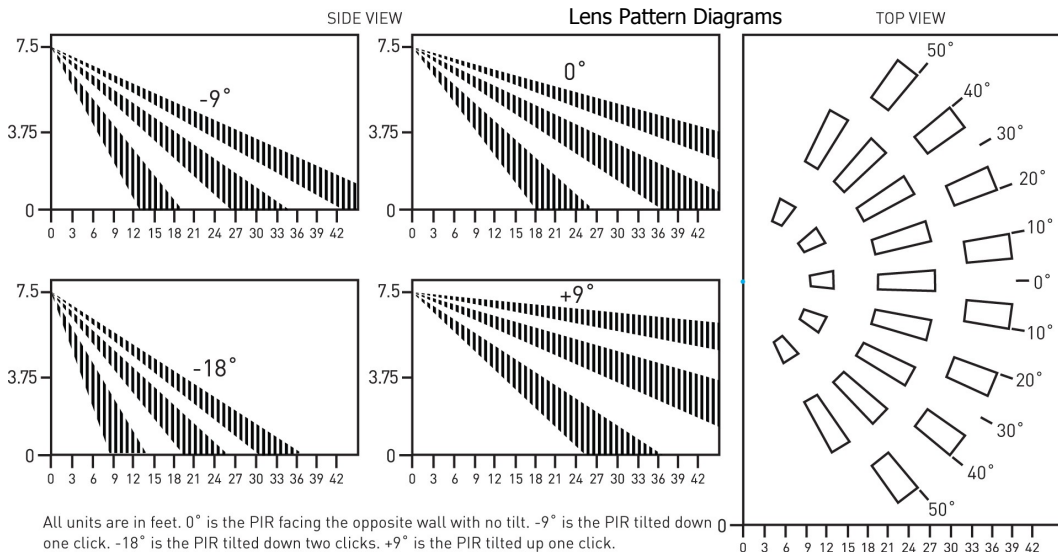
- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Note: Changes or modifications to the device may void FCC compliance.

FCC ID: WDQ-PIR1345

Industry Canada ID: 7794A-PIR1345

\*For more warranty and compliance information, visit our website ([www.2gig.com](http://www.2gig.com)).



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