

Bumps in the Night!!!!

April 2014 Issue

Tools of the Trade

How to Shield a Motion Detector

Tutorial Series

By Bill Krempp, TnT Paranormal Investigators LLC

A motion detector is a useful tool for an investigation but is prone to false triggers from walkie talkies due to the fact that there is little to no RF shielding. Some of the Motion Detectors that TnT Paranormal uses are the inexpensive Passive IR units sold by many resellers to include Harbor Freight (model #95275) which have a list price of around \$10 each. All the units we have are now shielded and false triggers have dropped to almost (but not quite) zero. It will take about 20 minutes and is fairly simple for the technically challenged folks out there ☺

Step 1. Gather items needed: Motion Detector (Figure 1) , Aluminum Foil Tape (Figure 2), Utility knife, Scissors, Small Phillips screwdriver, and a rounded object (pen cap?) for smoothing foil.



Figure 1: Motion Detector



Figure 2: Aluminum Foil Tape

Step 2: Disassembly: Remove the battery cover and 3 screws to separate case. Next remove the screw holding the LED to free the circuit board. (Figures 3 and 4)



Figure 3: Remove Screws

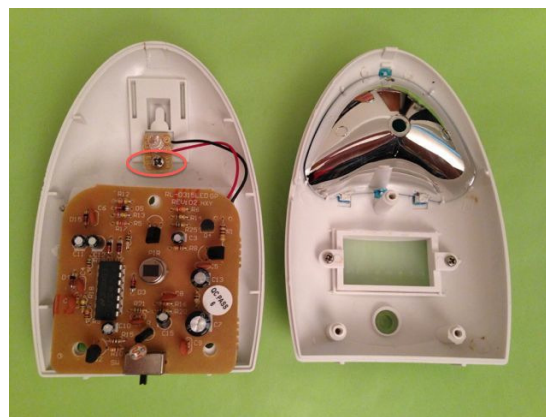


Figure 4: Inside of Motion Detector

Bumps in the Night!!!!

April 2014 Issue

Tools of the Trade

How to Shield a Motion Detector

Step 3: Shield back case. With the circuit board flipped out of the way, cut a strip of foil tape (leave the back on while rough cutting) to cover the back of the battery case. Remove the backing and adhere from the middle working to either end while making sure it is **NOT** touching the metal power tabs. Trim around circuit board mounting pads and remove foil from that area per photo. (Figures 5 and 6)

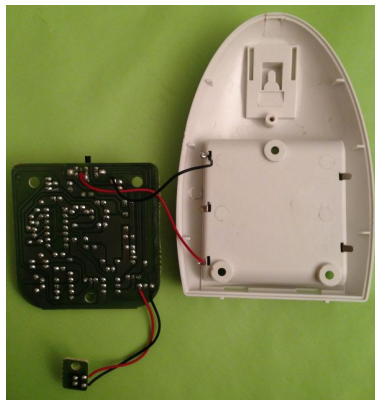


Figure 5: Move Circuit Board



Figure 6: Use Foil to Cover Battery Case

Step 4: Shield front case. Remove the Passive IR Sensor (PIR) lens (Figure 7), and pre-cut several strip of foil tape with holes and/or slots for the obstructions. Once all 4 main foil segments are installed, use the leftover foil scraps the fill in missing areas and trim and smooth the foil tape (Figure 8). Do not cover up the switch hole on the bottom of the unit.



Figure 7: Remove the Passive IR Sensor (PIR) lens



Figure 8: Add Foil

Bumps in the Night!!!!

April 2014 Issue

Tools of the Trade

How to Shield a Motion Detector

Step 5: Reassembly. The hard part is over now. Reinstall the PIR lens, the LED in the back case, and position the circuit board into the front case making sure the small protruding light sensor seats into it's round window and the switch thru it's hole in the bottom (Figure 9). Now, align the top tab and snap together front/back cases and the 3 screws and battery cover. You're done!!



Figure 9: Reassembly

TnT Paranormal Investigators LLC
Do not copy or reproduce without permission