

Skipper's Mate

How to Adjust a PIR

Version 1.0.3

1 December 2017

1. Scope

This document is intended to help you adjust and test a PIR.

Note 1 :

- the physical adjustment of the PIR applies to both the TESS PIR which is attached to the Boat Control Unit (BCU) **and** to any remote PIR attached to a Sensor Control Unit (SCU)
- the test program only applies to the TESS edition

PIR devices often need adjusting to ensure that they report when motion is detected but don't report erroneously.

Note 2: It has been observed that having the VCC and GND jumper wires can cause erroneous readings. The recommended method to avoid this is to plait the jumper wires.

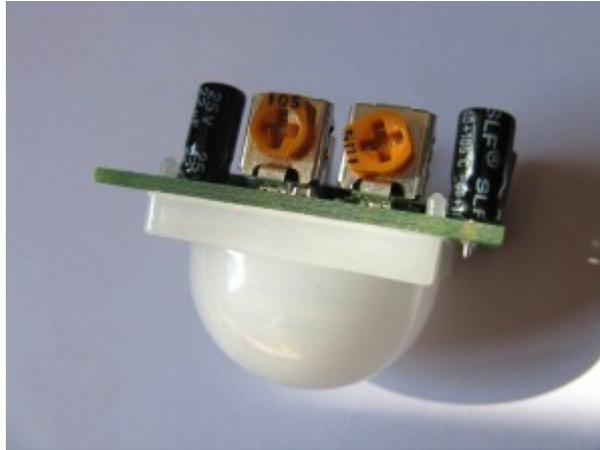
Note 3 : It is a good idea to site your PIR away from direct or reflected light/sunshine as this can trigger an alert erroneously.

The PIR will have 2 adjusters – usually orange :



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The adjuster on the left (when the PIR is pointing downward) controls **Sensitivity**

The adjuster on the right (when the PIR is pointing downward) controls **Time**

If you are using a TESS PIR you should ensure that both the ALL and the BCU switches on the Alert Control Panel are set ON.

If you are using a remote PIR attached to an SCU you should ensure that ALL and PIR are switched on on the Alert Control Panel.

2. Adjusting Sensitivity – Left Adjuster

This is largely a matter of experimentation until you get the PIR to respond to motion but not to generate erroneous alerts. The test program (see Section 4 below) will allow you to test without sending any email or SMS alerts.

Turning the switch to the left decreases sensitivity.

3. Adjusting Time – Right Adjuster

We suggest that a time of approximately 5 seconds will generally give a good response. This is usually achieved by turning the adjuster fully to the left and then back so that the left hand horizontal points at about 10 o'clock.

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4. Testing without sending email or SMS

We use this program **pircheck** to test/calibrate PIRs before use and before sending any out. You may find it necessary to run this again as your live environment is likely to be quite different to our test environment.

If you wish to run the test program **pircheck** to see when the PIR detects motion – without waiting for SMS messages or emails you can follow the procedure below :

You will need to log into the command line/terminal of the BCU. This can be done using a utility such as **ssh** or **putty** or, from Android **JuiceSSH**. To find out how to use these utilities please consult the web.

Login to the BCU (192.168.51.254) with the ssh utility, using the user name **pi** and the password **raspberry**

Stop the PIRcheck program by issuing this command :

sudo killall pircheck and hit return

Then issue the command : **sudo pirtest 5** and hit return.

The program should return :

```
Ready
```

and then wait for motion.

If you wave at the PIR you should see a couple of lines indicating that the PIR has detected motion e.g.

```
18:29:41 *****Burglars 0
```

```
18:29:46 *****Burglars 1
```

You need to adjust until you only see “Burglar” lines when there really IS motion (make sure you sit still !) and NOT when there is none.

When you have finished testing, you must either issue the command

ssh reboot

or reboot via the power.