

# TX500 WIRELESS PIR DETECTOR

## installation & operating instructions

### INTRODUCTION

#### HOW THE TX500 WORKS

The TX500 is a battery operated PIR detector with a built in radio transmitter. Each time the TX500 detects movement it transmits a coded signal to a receiver which then gives an appropriate output to either operate lighting or interface with an alarm system.

#### TYPES OF RECEIVERS

- RXB.** Plug in wireless bleeper. May be plugged into any mains socket in the house or workshop to give audible indication that the TX500 has detected movement.
- RX300.** Mains powered receiver to directly operate lighting up to 1000 watts.
- RX400.** 12 volt receiver to interface with alarm equipment or lighting controllers.
- RX16dc.** Multi channel receiver for general alarm applications and more specifically CCTV interface. The outputs connect directly to multiplexers and matrix switchers.

#### BATTERY LIFE

Because the TX500 has a very low power consumption when idle (typically 15 micro amps) it means that the battery will last for a long time. The battery life will depend upon the amount of activations but it is usual for a standard alkaline battery to last about eighteen months. Where the TX500 is to operate many times a day it is recommended that a lithium battery be used which has a much higher capacity.

#### BEGINNING THE INSTALLATION

There are two important considerations to remember when positioning the TX500. *Firstly* there should be minimum obstruction between the TX500 and the wireless receiver. Any obstruction such as trees and especially buildings will reduce the radio transmission range. *Secondly* the TX500 should be positioned for best detection and minimum false activations. Fit the detector at the correct height and avoid reflective surfaces such as windows, water, cars etc. Fix the TX500 to the wall using 4 x No6 x3/4" countersunk screws.

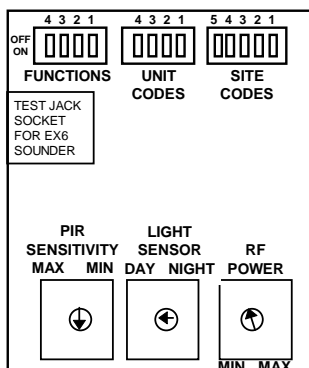
#### CONTROL BOARD SETTINGS

The PIR sensitivity, Light sensor setting and RF power output are factory SET. You can adjust them by pulling the board forward.

The **SENSITIVITY** adjuster can be turned anti-clockwise by degrees to reduce the PIR range and sensitivity of the detector.

The **LIGHT SENSOR** adjuster can be switched On or OFF with FUNCTION switch number 4. Only switch OFF the light sensor when the TX500 is required to operate day and night.

The **RF POWER** setting should not be increased as this would necessitate a licence.



#### SITE CODES

A site code is like a key and lock. The TX500 site code is the key and the receiver site code is the lock. The receiver code must be the same as the TX500 code. Make a combination with the site code switches, E.G. 12&3 ON, 4&5 OFF. Put the same code on the receiver. Any amount of TX500's can work with a receiver.

#### UNIT CODES

A unit code is the detectors individual identifying code. This code can be used to identify the detector but only when using an RX16 multi zone receiver or an RX400 receiver fitted with a PC20 two zone splitter module. In most other cases the unit code switches are left **OFF**.

## FUNCTION SWITCHES

- |                 |                               |                             |
|-----------------|-------------------------------|-----------------------------|
| 1. Test         | <b>ON</b> permanent transmit. | <b>OFF</b> Normal           |
| 2. Sleep time   | <b>ON</b> 5 second sleep      | <b>OFF</b> 30 second sleep  |
| 3. Pulse count  | <b>ON</b> single pulse        | <b>OFF</b> double pulse     |
| 4. Light sensor | <b>ON</b> light sensor ON     | <b>OFF</b> light sensor OFF |

Switch (1) transmits a permanent RF signal to test the transmission range.

Use switch (2) to give a short sleep time for CCTV applications and for testing purposes. Long sleep times are for lighting applications and prolong the battery life.

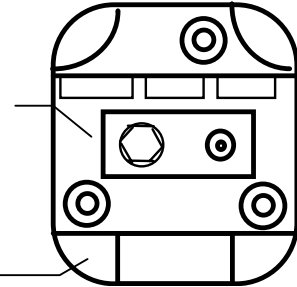
Switch (3) is for pulse count. Use single pulse for motor vehicle detection and double count for people detection and to reduce false activations.

Switch **OFF** light sensor number (4) for CCTV applications and walk testing. Switch **On** for lighting applications.

Battery compartment showing how the battery fits.

Fig 2.

Fixing screw tunnels.



## RADIO SIGNAL

The TX500 has a short 228mm aerial which should be screwed on to the rear of the detector. Try to obtain line of sight between the TX500 and the receiver. Any object in the path will reduce the range, especially metal clad barns or other metal constructions.

The receiver should be as high as possible and not hidden away in a ground floor cupboard. Try to put the receiver in a loft and place the aerial vertically.

## TESTING and COMMISSIONING

Insert a PP3 battery into the battery compartment as shown in Fig1 and clip on the battery connector. Be careful to dress the wires so that they do not get trapped by the front cover and observe the battery polarity.

Set the **FUNCTION** switches as follows:

Set switch no 1 to **OFF**.

Set switch no 2 to **ON**. This will make the detector re-activate after only 5 seconds sleep time and make walk testing much easier.

Set switch no 3 to **ON** for single pulse detection or **OFF** for double pulse detection. If you want to detect vehicles then the single pulse is better. Double pulse filters out potential false alarms.

Set switch 4 to **OFF**. This will allow the detector to operate during daylight.

**WALK TEST** the detector by walking into the detection area and observing the positions where the detector activates. If you possess an EX6 walk test sounder, plug this into the Jack socket on the control board. This will make walk testing much easier especially when testing the long range (40 metre) versions.

The RX6 can also be plugged onto an RX16 receiver (if used) and this will not only test the detection area but also the radio transmission from the detector to the receiver. RXB wireless plug in beepers are also useful for walk testing these detectors.

**If an RX6 bleeper is not available then the receiver will have to provide the detection information by observing the lighting or sounders that the receiver operates.**

## TRANSMISSION TEST.

Test the transmission range by putting function switch **no 1 ON** (permanent transmit) and observing the signal LED on the receiver.

**LED ON fully. Good signal. LED flashing occasionally. Reasonable signal. LED flashes with long pauses. Poor signal.**

**Do not leave switch 1 ON. This is only to test the transmission range and must be switched OFF again after the test.**

To improve reception re-position the TX500 and/or the receiver or use high gain aerials. Contact out technical help- line.

When testing is complete, switch **ON** function switch **no 4**. **The TX500 will now only operate at night.** If the detector is to work 24 hours a day, then leave switch 4 **OFF**.

Switch **OFF no 2** unless the detector is operating CCTV or audible warning in which case leave it **ON**.