Anzacare Wireless Body Fluid Detecting Alarm - Users Guide

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SPEDA
SOUTH PACIFIC•ELECTRONIC DESIGN ASSOCIATES

Instruction for Safe Operation

1. RANGE OF ENVIRONMENT CONDITIONS
    This product is designed to be safe under the following environmental conditions:
    - ❑ Indoor Use
    - ❑ Altitude up to 2000m
    - ❑ Temperature of 5°C to 40°C
    - ❑ Maximum relative humidity 80%

2. This symbol is marked on the equipment when it is necessary for the user to refer to the manual for important safety information.

3. This symbol denotes a potential hazard. Attention must be given to the statement to prevent damage, destruction or harm.

NOTICE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

⇒ Reorient or relocate the receiving antenna.
⇒ Increase the separation between the equipment and receiver.
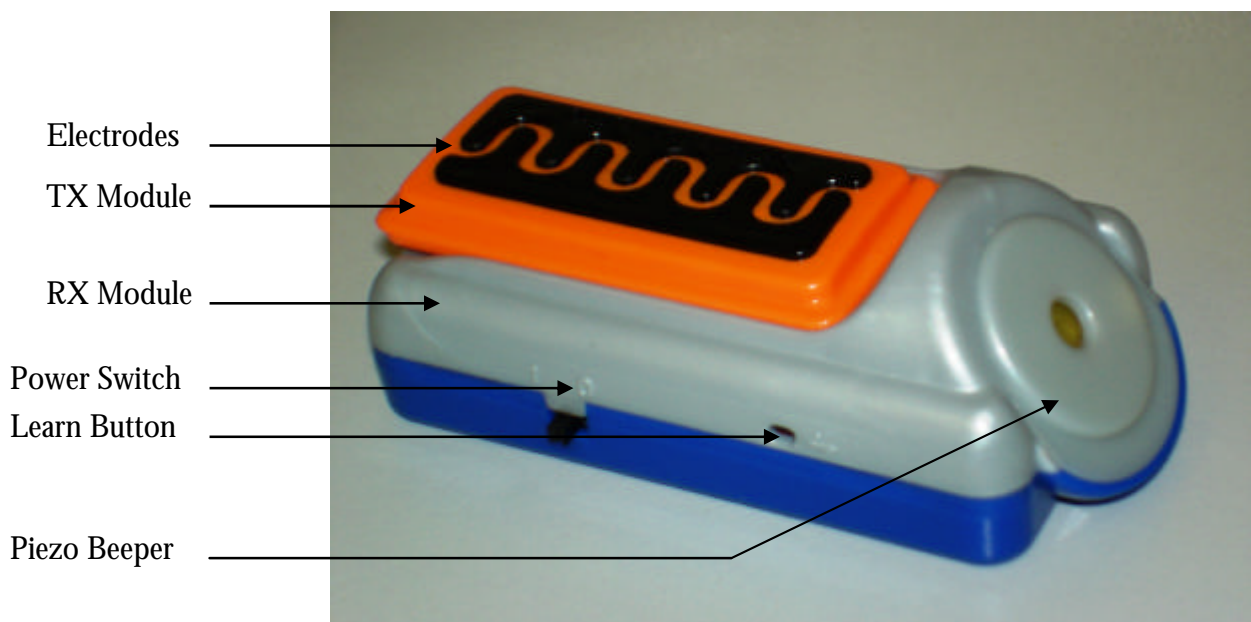⇒ Consult the dealer or an experienced radio/TV technician for help.

FCC WARNING:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1   Introduction

The Anzacare Wireless Body Fluid Detecting Alarm (AWBFDA) system consists of a radio frequency transmitter (TX) and receiver (RX) pair. Both the TX and RX modules are battery powered. The TX module includes a conductivity sensor, which can detect body fluids like urine. The RX module includes a piezo beeper for alarm generation. Both TX and RX modules operate in power down mode under normal conditions. The TX module comes out of power down mode and transmits an RF signal when its associated body fluid sensor becomes wet. This RF signal causes the RX module to come out of power down mode generating an alarm condition. Each TX module transmits its own unique ID under the wet condition. The RX module can be configured for a particular TX module.

2   Operating Instructions

Electrodes

TX Module

RX Module

Power Switch

Learn Button

Piezo Beeper

Picture 2-1: Anzacare Wireless Body Fluid Detecting Alarm

2.1 TX Module

When the TX is mounted on the RX module a magnetic switch disconnects the battery in the TX unit. Thus, to ensure maximum life for the TX unit it is recommended that it be mounted on the RX unit when not in use. This is indicated in the picture above. On the topside of TX module there are two conductive plastic electrodes used as a fluid sensor. The following steps should be followed for testing the TX module. (NB. This test assumes that the RX has been trained to the TX. See section 2.4)

1. Clean and dry the TX electrodes with a dry tissue-paper

2. Lift the TX module from the top of RX module. This will turn on the TX module. Ensure that the RX module is switched on.

3. Use a damp tissue paper to short the top conductive plastic electrodes. This will activate the TX module, which sends an RF transmission to the RX.

4. The RX module that is configured for this TX module will enter into the Alarm generation mode.

5. To repeat the trigger sequence clean the TX electrodes with a dry tissue-paper and start again from step three. The TX will not operate again unless it is completely dried.

2.2 Low Battery condition

The TX module's battery is not replaceable. The low battery condition of the TX module is indicated to the user by an intermittent alarm tone from the RX. Under low battery condition the user needs to replace the TX module.

Note: When not in use, the TX module should be on the RX module as shown in the picture 2-1. This will give a longer battery life for TX module.

2.3 RX Module

The RX module is shown in Fig. 2.1. It has a power on-off switch, a learn push button to configure the RX module and a piezo beeper. The following steps will test the RX module. It is assumed that the RX module is previously configured for the TX module (See section 2.4).

1. Switch on the RX module by moving the power switch position from "0" to "1".

2. A short burst of beeps after power on indicates that the RX module initialisation is successful.

3. For proper operation of the RX module a five second wait period is necessary. This allows the UHF receiver chip to stabilise.

4. Now the RX module is ready for reception from the TX module. Follow the procedure in Sect. 2.1 to trigger the RX.

5. The RX module enters into alarm mode for 2 minutes. However, the alarm can be stopped at any time by operating the power switch on the RX module.
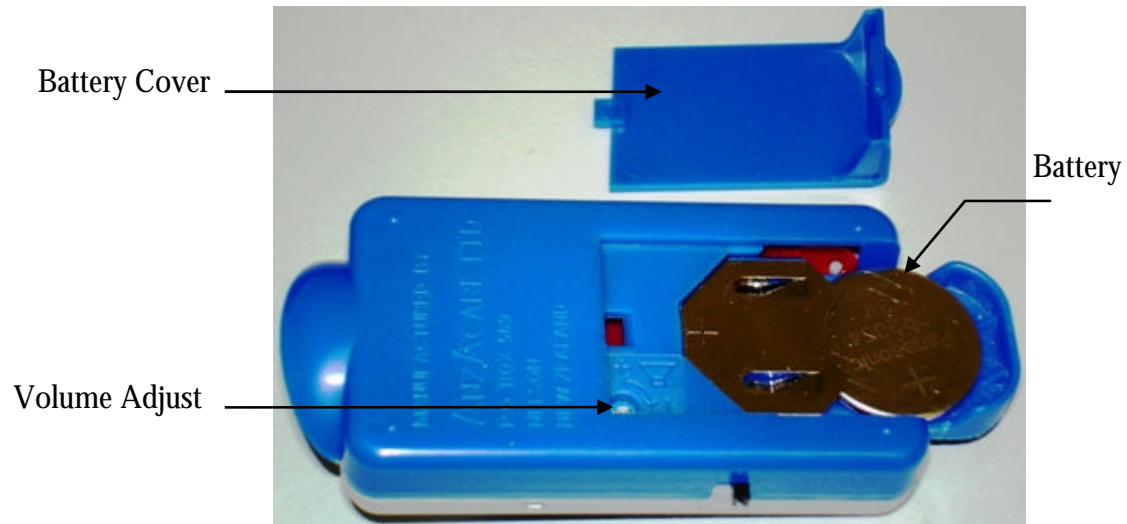
2.4 RX module configuration

The RX module enters into the alarm condition only if it finds a match between its locally stored ID and the ID received from the RF signal. In the RX module configuration process one can modify the locally stored ID of the RX module using the learn button provided on the RX module. The following steps configure an RX module to a particular TX module.

1. The TX and RX modules should be kept adjacent at about a half meter separation.

2. Switch on the RX module by moving the power switch position from "0" to "1".

3. A short burst of beeps after power on indicates that the RX module initialisation is successful.

4. Press the learn button provided on the RX module until the beeps start. A total of 63 beeps can be heard in about 2 minutes. This low frequency beeping indicates that the RX module is in learning mode and waiting to receive a new ID.

5. While the RX module is in learn mode follow the TX module testing procedure in Sect. 2.1. This will cause the TX module to transmit its unique ID.

6. Upon successful reception of the transmitted ID the beeper on the RX module will change its beeping frequency and a short burst of beeps can be heard. This means that the RX module has successfully completed the new ID learn process.

2.5 RX module battery compartment

The picture below shows the battery compartment of the RX module. The recommended battery for the RX module is CR2354 which is a 3V lithium battery.

Battery Cover

Battery

Volume Adjust

2.6 Beeper Volume

- As shown in the picture above the beeper volume can be adjusted with the help of a small screw driver.