

DOCUMENT NUMBER: OP1920033 REV. A

DESCRIPTION: PB-3 OPERATING INSTRUCTIONS

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Orig: _____

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Introduction

The PB3 is a covert, VHF, dual-mode beacon/alarm transmitter housed in ultra-low-profile package. It incorporates 3-axis motion detection and a breakwire circuit. A single microprocessor controls all functions, allowing the beacon to be very compact. The RF power output is 1 watt. A screw-type terminal strip allows solderless connections, making it "field-friendly".

Description

Battery

The PB-3 will operate from any 6-volt source. DO NOT connect the unit to a 12-volt source, such as a car battery, or damage will result. The PB-3 is shipped with a 4xAA battery holder, which will provide long battery life. The PB-3 is protected from damage from reversed battery polarity.

PB-3 Features

The PB-3 has a terminal strip which allow the user to connect a power source, a breakwire, and to select features. The breakwire and feature selection will be described in detail.

Breakwire input

The breakwire input on the PB-3 will detect a change-of-state. This means that you can use the breakwire in the traditional way and use a wire loop from the BREAKWIRE pin to the GROUND pin on the terminal strip. After the power is applied, if the loop breaks the alarm will go off. If you want, you can use a normally-open switch as well; just connect it between the BREAKWIRE and GROUND pins, and the alarm will go off if the switch is closed. The important thing is that the BREAKWIRE pin is in the "safe" condition, before you apply power to the transmitter. Once the alarm goes off, it cannot be turned off except by powering down the transmitter.

Mode selection

The PB-3 is two devices in one: it's a beacon transmitter and an alarm transmitter.

To select beacon mode, nothing should be connected to the MODE pin. The PB-3 will transmit pulses (100% Birddog (tm) compatible), sense motion (if MOTION ENABLE is connected to GROUND), and transmit an alarm on a change in the state of the BREAKWIRE pin.

To select alarm transmitter mode, place a short from the MODE pin to GROUND. The PB-3 will transmit a short confidence tone every thirty seconds, until the BREAKWIRE pin changes state (see above) and the alarm goes off.

The alarm is the same for both beacon transmitter mode and alarm transmitter mode. It is a 50% duty cycle, 1 kHz tone transmitted once per second.

Antenna

The antenna connector on the PB-3 is an MMCX. Various wire antennas can be used with the PB-3; it has an SWR tolerance of 12:1 (or better) . The wire antenna shipped with the unit is optimized for the frequency of operation. Ideally, it will be kept stretched out and away from metal objects as much as possible. Contact the factory for other antenna configurations.

Operation

1. Choose beacon transmitter or alarm transmitter mode. Connect the MODE and GROUND pins for alarm transmitter mode, leave it open for beacon transmitter mode.
2. If motion sensing is desired, connect a wire between MOTION ENABLE and GROUND.
3. If a breakwire input is desired, connect it between the BREAKWIRE and GROUND pins.
4. Connect a suitable antenna.
5. Connect a 6-volt power source.
6. Verify that the signal is being received.