

# SATELLITE TRACKING OF PEOPLE LLC (STOP)

## Operational Description of BluDrive™

BluDrive™

The BluDrive™ is an RF device housed within a small handheld case. It is normally powered from a mains adaptor supply (12v); however an internal rechargeable battery provides power when the BluDrive™ mains power supply is not available. The BluDrive™ also contains internal memory for recording events and a LED screen for real time information. The BluDrive has a serial output for downloading logged data to a PC application.

The normal function of a BluDrive™ unit is to monitor and confirm the presence of a Blutag™ using RF received transmissions at random intervals on an approved frequency for the country of operation. A typical use for the product will be to confirm the presence of a person wearing a Blutag™ within the confines of their home. Using a received signal strength indicator (RSSI) and unique ID from the monitored device the BluDrive can confirm the presence and its approximate distance.

The BluDrive™ using a transceiver receives and replies to RF pings received from one or more BluTag™ when in range; and in response to the ping received back from the BluDrive™, the BluTag™ will behave in accordance with its configured set-up.

The BluDrive™ receives a unique I.D. as well as any prevailing alarm conditions such as movement; tamper; mains power loss and low battery.

The BluDrive™ will store all received data and alarms from one or more BluTag™ that can at a later time be downloaded for review and storage to a PC application

## Main Components

|                        |   |
|------------------------|---|
| <b>Main Processor</b>  | The main processor is a microchip enhanced flash type with in-circuit and self programming functionality to allow remote upgrading of firmware. |
| <b>RF Transceiver</b>  | The Micrel RF505 transceiver is optimized for use in the ISM 903-928 US frequency band.   |
| <b>RF Antenna</b>      | An SMA socket is provided to allow connection of an external antenna.   |
| <b>Real Time Clock</b> | An RTC IC is used to provide date and time functions for the unit. The RTC is backed up by a separate battery to retain date                    |

and time when power is removed.

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|-----------------------------------|---|
| <b>Buzzer</b>                     | A PCB mounted buzzer is fitted to provide feedback to the user.   |
| <b>Keypad</b>                     | The keypad is comprised of four keys including Left Function Key, Right Function Key, Up Arrow Key and Down Arrow Key.  |
| <b>LCD Display</b>                | A 128 x 64 LCD Mono graphics module is mounted into the enclosure. The display has an LED backlight controlled by the software.   |
| <b>Serial Link</b>                | A 9-way Female D-type connector allows connection of a standard serial cable for downloading log data to a PC. The port supports baud rates of up to 19K2.  |
| <b>Charger / Power Management</b> | The charger and power management circuitry controls the charging of the main batteries and provide monitoring of the external power input and battery condition. The battery / external supply is regulated to a suitable level for the control electronics. Suitable protection is provided to prevent damage from excessive voltages from the external PSU. |
| <b>Battery and Charging</b>       | The unit uses the same lithium battery as the BluTag device. The same battery charging circuit is also used.  |
| <b>External Power</b>             | The circuit is designed to use an external supply compatible with the supply used with existing STOP products. The input voltage range of the unit is 9-12V and allows connection to a 12V vehicle supply. A DC power socket is provided and the corresponding plug is specified for connecting to the existing STOP power supply.                            |