

# SU-WP4C

**Complete Battery-Operated Vehicle Detection System**

**WITH**

**INOVONICS**  
HIGH PERFORMANCE WIRELESS

## Contents:

(1) N3BOX (NEMA III Enclosure)

*Containing:*

(1) WP4 Processor (*conformal coated*)

(1) 900 MHz Transmitter (*conformal coated*)

*Range: 2000 Feet*

(1) WP500-25

Driveway Probe with 25' Lead

(2) 9VBL (9-Volt Lithium Batteries)

(1) 900 MHz Receiver

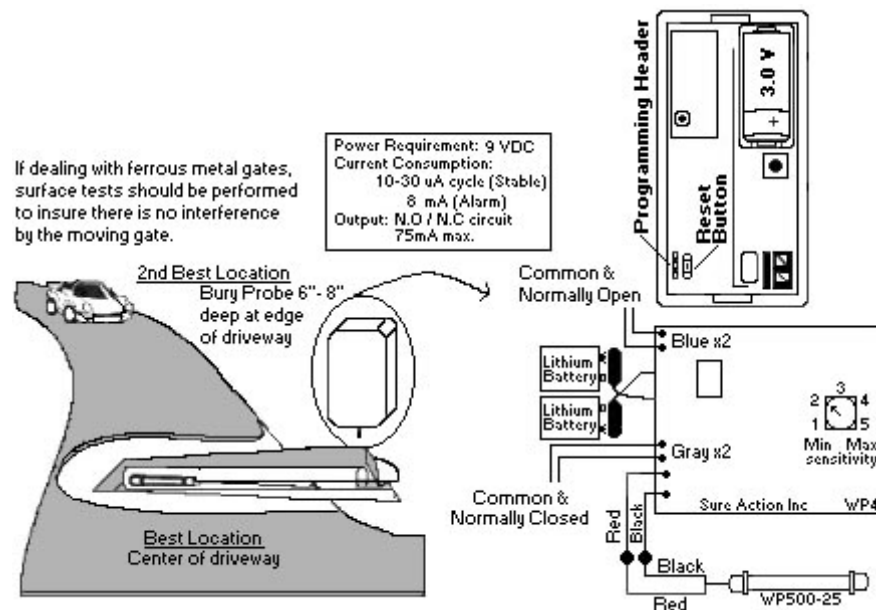
(1) 12VDC5 (12 VDC 500 mA Transformer)

Epoxy Filled Crimps

**This system is pre-programmed.**

The WP4C is a complete Plug and Play vehicle detection system designed to be operated by two (2) 9-volt lithium batteries. It is ideal for locations where running wire between a building and the location of the probe is difficult. A gray NEMA III enclosure houses the transmitter & processor (conformal coated), and batteries. The box is mounted near the location of the probe. The probe will come with a standard 25-foot lead. \*Excess wire should be cut or buried. Do not coil excess wire inside of box. The transmitter for this system is tested to 2000 feet in open air (*Line of sight at four feet above ground level*). **The transmitter and receiver are pre-programmed.** If it becomes necessary to reprogram them you will need the black jumper and instructions supplied. Do not discard these items. Average battery life should be approximately 12 months with ten firings a day. Lithium batteries are recommended for colder climates.

- \* The "Activated" light on the receiver will come on during alarm condition (Average 5-8 seconds).
- \* The "Tampered" light will come on any time the cover is removed from the transmitter.
- \* The "Low Battery" light on the receiver will come on when the battery in the transmitter gets low.
- \* The "Inactive" light will come on if the transmitter ceases to function. The system may begin to oscillate when the 9-volt batteries get low. If the system ceases to function and the low battery and or inactive lights are not lit on the receiver, the 9-volt batteries must be changed.



### **Possible Ways to Bury Probe**

- 1) Center of Driveway - 1st Choice
  - a) Sensitivity can be lowered for greater stability
  - b) Range can be extended for a wider driveway
  - c) Bury probe under driveway by encasing probe in a 2" or 3" PVC pipe that has been sealed at one end.
    - i) Pipe should be pitched for drainage.
    - ii) Allows installer to retrieve the probe at later date if needed.
- 2) Alongside Driveway - 2nd Choice
  - a) Bury probe 6" - 8" in soft earth at the edge of the driveway.
  - b) Place probe parallel to traffic motion.

### **Range and Sensitivity Don'ts**

- 1) The range of the probe will cover a driveway up to 14 feet.
- 2) **Do not** bury probe within 5 ft. of power cables or transformers.
- 3) **Do not** bury probe within 14 ft. of high-powered radio towers.
- 4) **Do not** bury probe within 24 ft. of residential traffic.
- 5) **Do not** bury probe within 36 ft. of highway traffic.
- 6) **Do not** bury probe within 100 ft. of moving trains.

# Installation

**Step 1:** Place Probe at the location it will be buried and mount the control box. (*The box should be four feet above the ground.*) Bring the probe lead into the box and connect the wires color for color. \*Excess wire should be cut or buried. Do not coil excess wire in the box.

- A. Install the 9-volt batteries and wait *1-2 minutes for the processor to complete the “burn-in” period.*  
B. Install the 3-volt battery in the transmitter, *press the reset button* and replace the cover.

**When initially installing the battery in the transmitter, you must press the reset button on the transmitter.**

Because the cover will be off the transmitter when you install the 3-volt battery and press the Reset button, the “Tampered” light may activate on the receiver. *This light will not effect system operation.* It will only tell you that the cover has been or is removed from the transmitter. The “Tampered” light will remain lit until reset from the receiver. Momentarily pressing the reset (tall) button on the receiver will return the system to normal.

**Step 2:** Mount receiver and chime in chosen locations. (*The receiver should be four feet above the ground.*) The Chimeplate is mounted so that the switch is on the bottom.

**Chime** (Requires a 3-conductor wire run)

**Black wire = Constant Ground**

**Red Wire = Constant + 12VDC**

**Blue Wire = Blue wire inside receiver**

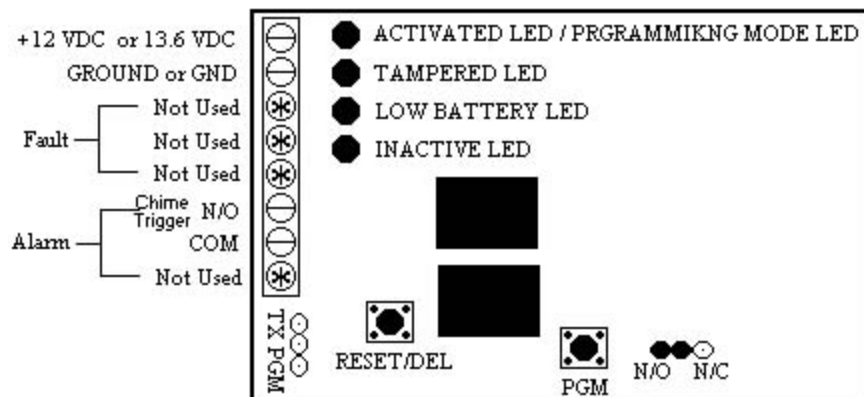
Sound Pressure: 80 dB at 12 VDC

Current Consumption: 5.0 mA at 12 VDC Standby  
125 mA at 12 VDC Alarm

**Note:** The power supply included with this system is to operate the receiver and a maximum of two (2) chimes. If using more than two sounders, you must replace the power supply with an appropriate power source.

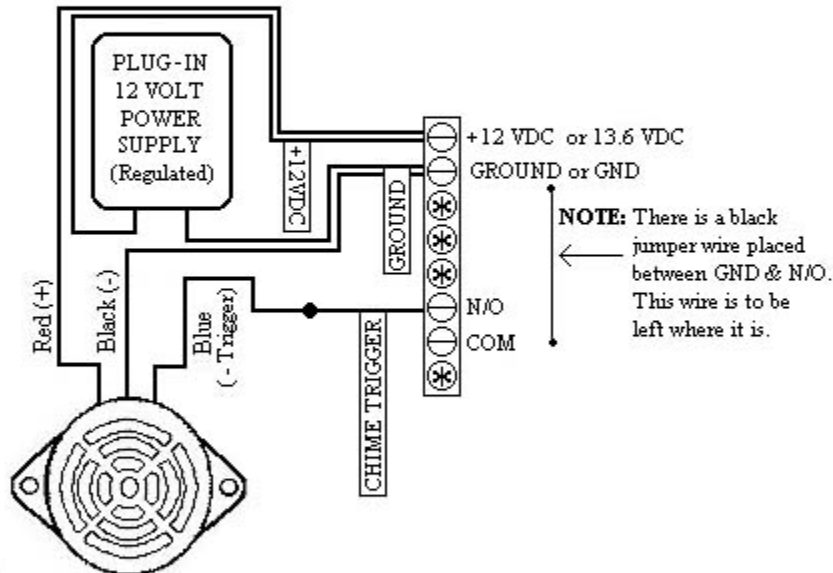
**Step 3:** Test the system. If everything is working, bury the probe and make all connections permanent.

## RECEIVER OVERVIEW



## WIRING THE CHIMEPLATE

- \* The Black/White stripe wire from the power supply labeled +12 VDC **AND** the red wire from the chimeplate are connected to the terminal labeled 13.6
- \* The Black wire from the power supply labeled GROUND **AND** the black wire from the chimeplate are connected to the terminal labeled GND.
- \* The Blue wire from the chimeplate is connected to the Blue wire in the receiver labeled CHIME TRIGGER.



- \* Some people find it easier to use one or both of the following options.
  1. Put the black wire from the chimeplate to COM terminal instead of GND terminal. (It is easier to put only two wires in the GND terminal rather than three.)
  2. Completely remove the Blue wire labeled CHIME TRIGGER from N/O terminal and connect the Blue wire from the chimeplate directly to the terminal. (This simply avoids a splice connection and helps to make a neat installation.)

## Troubleshooting

One (1) 1K $\Omega$  is required for troubleshooting procedures.  
(This resistor is supplied on the door of the box)

### Processor:

- 1) Check batteries. Cut probe free from processor.
- 2) Wire a 1 K $\Omega$  resistor between the Black lead and the Red lead.
- 3) Digital voltage readings are positive in relation to negative of the battery.
  - i. Black to Neg. = 1.9 - 2.2 VDC
  - ii. Red to Neg. = 1.9 - 2.2 VDC

**Both readings will be the same.**

### Probe:

- 1) Cut Probe free from processor.
- 2) Take a resistance reading between the Black lead and the White lead. The reading should be very close to the reference number written in red on the body of the probe.
- 3) Wave magnet over the probe. Observe resistance variation of +/- 2 to 10 Ohms. The 2K Ohm setting of the meter would be the most accurate.