

## Telog's A-CBA (Cellular Burial Antenna) Installation Instructions

The Telog Cellular Antenna model A-CBA provides a means of cellular communications between Telog 3300 Series Recorders and the local cellular network. The A-CBA (Cellular Burial Antenna) is intended for burial beneath the road surface adjacent to a manhole or vault that is monitored. This document provides recommended installation instructions for this antenna.

### Recommended Equipment List

- Telog R-3300 Data Recorder with CA6, CDPD, 1xRTT or CDMA communications option
- Remote host computer operating Telogers Support Software and appropriate communications interface
- Portable computer operating Telogers support software
- Telog A-CBA antenna
- Asphalt saw or auger – Saw capable of cutting 3 inches deep into road surface or Circular boring type with 5-inch diameter.
- Heavy duty asphalt chisel
- Hammer drill with  $\frac{3}{4}$  to 1 inch asphalt drill bit (for antenna cable installation).
- Sakrete asphalt mix (Asphalt patch)
- Bondo; Mar-Hyde P606 Traffic Detector Wire Loop Sealer, or equal

### Road surface preparation

The antenna should be installed in the road approximately 6 to 8 inches from the manhole or vault containing the Telog recorder. Using the asphalt saw and chisel or boring saw, excavate a hole or trench in the road surface approximately 5 inches in diameter (or square) and 3 inches deep. Using the hammer drill, drill a  $\frac{3}{4}$  to one-inch hole from the bottom of the excavated hole closest to the manhole into the manhole below the steel manhole cover support ring. See Fig. 1

### Antenna installation

Route the antenna cable through the drilled hole into the manhole or vault. Install the antenna in the excavated hole, pulling the antenna cable taut. The antenna should be located in the hole so that the top surface of the antenna (ceramic side up) is approximately  $\frac{1}{4}$  or  $\frac{1}{2}$  inch below the surface of the road. It is important that the floor of the hole the antenna sits in is solid. See Fig. 1

### Antenna test

With the Telog recorder sitting on the road surface next to the manhole, insert the antenna cable through the recorder enclosure's watertight fitting and attach it to the cellular modem connector. Depress the recorder's tamper pushbutton to initiate a cellular call from the recorder to the remote host computer. The success of the call can be verified by downloading data from the recorder locally to the portable computer.

**NOTE:** This requires the recorder to be programmed to call the host PC before deployment to the field.

### Bury the antenna

Once the operation of the antenna has been confirmed, it may be permanently buried. First insert asphalt mix around the antenna and pack it in place, making certain the antenna is firmly sitting on a solid base and cannot be rocked back and forth. The asphalt mix should be installed around the antenna to the level of the road surface, but not over the top surface of the antenna.

Pour the Bondo sealer into and over the asphalt mix and over the top of the antenna; there should **no more than ¼ (0.25) of an inch of Bondo sealer over the top of the antenna.**

Connect the desired sensor inputs to the recorder and install the recorder in the manhole.

### **Figure 1:**

**Note: Material between antenna tile and free air should not exceed ¼ (0.25) of an inch.**

