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Troubleshooting Tips & Procedures

Model 8800 series

GeoNet Wireless

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Warranty Statement

Geokon warrants its products to be free of defects in materials and workmanship, under normal use and service for a period of 13 months from date of purchase. If the unit should malfunction, it must be returned to the factory for evaluation, freight prepaid. Upon examination by Geokon, if the unit is found to be defective, it will be repaired or replaced at no charge. However, the WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion or current, heat, moisture or vibration, improper specification, misapplication, misuse or other operating conditions outside of Geokon's control. Components which wear or which are damaged by misuse are not warranted. This includes fuses and batteries.

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FIGURES

1. DEVICE MOUNTING

- Attach the units to the mounting surface by utilizing the mounting plate. The mounting plate is designed to be used with hardware such as U-Bolts, hose clamps, bolts, screws, etc. (Mounting hardware is not included.)

- Devices should be mounted vertically, with the antenna pointing up.

- Mount Nodes and Supervisors as high off the ground as possible. (See Figure 1.)

- Obstructions between, around, or near GeoNet devices can cause reflections of the radio signal. Reflected radio signals can cause GeoNet devices to malfunction.

- For optimum performance, create as much space as possible between the straight-line radio path and any obstructions, especially metallic objects.
  (See Figure 2.)

Figure 1 - Example of Proper Mounting

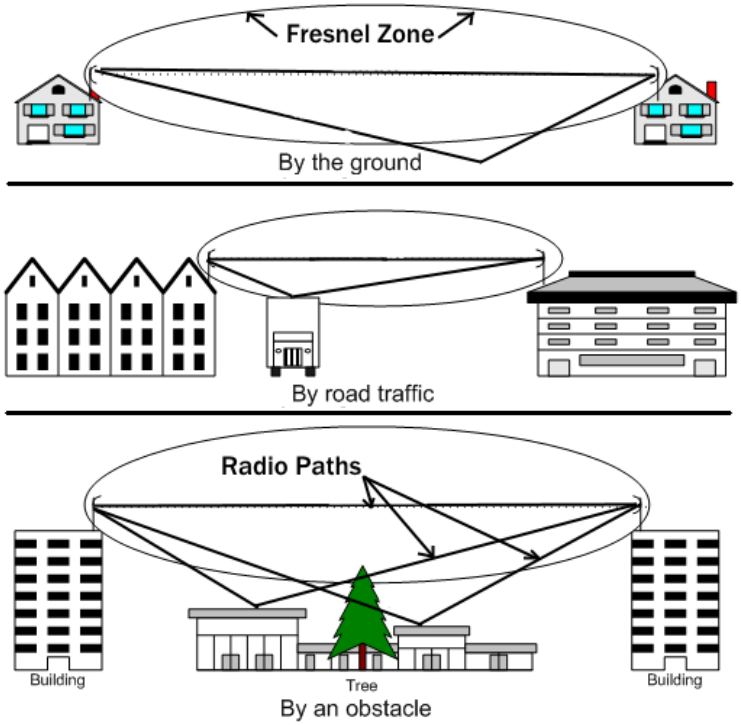

Figure 2 - Fresnel Zone

Figure 3 shows examples of improper device mounting. In each case there are obstructions blocking the radio path.

Figure 3 - Examples of Radio Obstructions

2.TIPS

- Avoid cycling power on a supervisor in a working network. The supervisor synchronizes all the nodes on a regular basis; when it is removed from the network the nodes start searching for it and consume more power. If necessary, put the network in deploy first, then cycle the supervisor. Reasons for cycling power on a supervisor:
  1) Changing the batteries.
  2) Moving the network to a new installation.

- Build networks by starting with nodes closest to the supervisor and moving outward.

- If GeoNet is deployed to a site and communication cannot be established, it may be necessary to elevate the devices, or to move them to a location where a radio link can be established. This may require extending the readout cable of the attached sensors.

- Changing “deploy period” with the Agent software requires exiting and re-entering deploy mode on the supervisor for the change to take effect.

- It may be necessary to stop the automatic download of data temporarily via the checkbox to change the scan rate of a network.

- The gages and charts (not including “live view”) in the Agent program are static. The information in these screens will only refresh upon entering the screen. If more data has been collected while viewing the screen, leave the screen and return. This will update the gage or chart with the latest information.

- Hover the cursor over the gages in the device list to bring up the tooltip showing the most recent data and the time it was collected.

3. PROCEDURES

3.1 Soft Reset

- Hold down the status button on the device for 10 seconds, until red and green LEDs turn on, then release.

3.2 Hard Reset

1) Remove batteries
2) Press the status button and ensure no LEDs light up
3) Replace batteries

3.3 Change Channel

- Change switch setting when batteries are out of unit.

-Or-

- Change switch setting and then reset node.

3.4 Starting a Network

1) Set channel select switches to desired channel.

2) Power up the supervisor.

3) Power up a node in close proximity.

4) The network is established if within 20-30 seconds one of the following occurs:
   - Red light activates every 10 seconds on the supervisor.
   - Green light activates every 10 seconds on the node.
   - Both sets of lights flash at the same time.

5) Start GeoNet Agent software.

6) Create a new network.

7) Enter address of supervisor.

8) Press “get network settings”.

9) Communication with the supervisor is good if the serial number of the supervisor appears in Serial Number textbox.

10) Press “set network time”, current time will appear in textbox.

11) Change deploy period and scan rate as desired.

12) Press “save” in Network Settings.

Network is deployed. You may now add nodes just by turning them on within radio range.

3.5 Putting Network into Deploy Mode

All devices are in deploy mode when turned on. There is no need to press the status button after power up. If a light is flashing on the supervisor every 10 seconds, the network is already in deploy mode. To activate deploy mode:

1) Press the status button on the supervisor.

2) Wait 3-6 minutes, observe a flash every 10 seconds.

3.6 Normal Mode

Networks will time out and switch to normal mode after the deploy period has expired without a new node being added to the network. Adding a new node restarts the deploy period timer. If no lights are flashing on the supervisor for more than 10 seconds, the network is in normal mode.

3.7 Adding a Node to an Existing Network

1) Put network in deploy mode.

2) Turn on the node within radio range.

3) The node will flash lights every 10 seconds to indicate signal strength once it syncs.

3.8 Node Lights

Nodes that have joined a network use their lights to indicate the presence and strength of signal. Pressing the status button “turns on” the lights for 10 minutes, after which time they will stop to conserve power.

3.8.1 Light Codes Unrelated to Normal Operation

Green Light On for One Second then Off for One Second:
Bootloader is activated.
1) Remove batteries
2) Change channel switches to a valid setting
3) Reinsert batteries

Green Light Flashing Quickly (Twice per Second):
This is a known issue. Update the network firmware to version 160816 or later

Repeating Cycle of Five Green Flashes Followed by One Long Red Flash:
Update the network firmware. If problem persists after upgrade return the unit for repair.

Green and Red Light Alternating:
Device malfunction; contact Geokon.

3.10 Node Will Not Join Network

1) Ensure network is in deploy mode; a light on the supervisor should flash every 10 seconds.

2) Ensure channel is the same as the rest of the network.

3) Restart node closer to other nodes or supervisor to establish link and then move back to desired location while using lights to observe signal strength.

3.11 No Data From Node

1) Be sure node is powered.

2) With network in deploy mode, observe either red and green or green lights every 10 seconds on the node.

3) Make sure network time is set.

3.12 Some Data Present (e.g., Battery/Signal Strength) but No Vibrating Wire Sensor Data Available

1) Check the sensor wire connections to the node terminal if so equipped.

2) If the node has been operating without a sensor connected, it will stop trying to read a sensor after five failed scans. Set the network time or change the scan rate to re-enable the node.

3) Check the sensor with an independent measurement device (e.g., GK-404 or GK-405).

3.13 Difficulty with Firmware Upgrade

- Make sure the green light is flashing on and off in one second intervals.

- The multicolored upgrade ribbon cable must be used on all units with the exception of the RS-232 version supervisor.

- Updates should be done using the Geokon provided USB to RS232 adapter, part number 8001-7. Other adapters and native serial ports have been unreliable.

- Make sure the batteries are fresh.