GeoNet

Wireless Acquisition System

Troubleshooting Tips and Procedures

(Doc Rev B, 01/17/2017)

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.
- ➤ 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.

Device Orientation

- ➤ Devices are typically mounted so that the antenna is on the top of the unit, and the cable entries are on the bottom; as seen in the picture below. 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.)

Procedures

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

➢ Hard Reset:
- Remove batteries
- Press the status button and ensure no LEDs light up
- Replace batteries

➢ Change Channel:
- change switch setting when batteries are out of unit
-or-
- change switch setting and then reset node

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:
   - 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"

   Communication with the supervisor is good if:

   - Serial number of supervisor appears in Serial Number textbox

9. Press "set network time", current time will appear in textbox
10. Change deploy period and scan rate as desired
11. Press "save" in Network Settings

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

Putting network in 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

1. Press the status button on the supervisor, observe a green LED flash
2. Wait 3-6 minutes, observe a flash every 10 seconds

Putting network in 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 already in normal mode

1. Press the status button on the supervisor, observe a red LED flash
2. Wait 10-20 seconds, observe flashing stops

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

Node lights and what they mean:

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. Upon pressing the status button and observing a green flash, the node will display lights for 10 minutes. Observing a red light will mean the lights are turned off, press again to enable.

Node won't join network:

1. Ensure network is in deploy mode, there should be a light flashing on the supervisor 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

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

   If some data is present (battery, signal strength) but no vibrating wire sensor data

   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 5 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, like a GK-404 or GK-405

Light codes unrelated to normal operation:

Green light 1 second on, 1 second off – bootloader is activated.

1. Remove batteries
2. Change channel switches to a valid setting
3. Reinsert batteries

Green light flashing quickly (twice per second) – known issue.

1. Change firmware to version 160816 or later

Green and red light alternating – Device malfunction.

1. Contact Geokon.

Difficulty with firmware upgrade:

1. Make sure the green light is flashing on and off in one second intervals.
2. The multicolored upgrade ribbon cable must be used on all units with the exception of the RS-232 version supervisor.
3. 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.
4. Make sure the batteries are fresh.