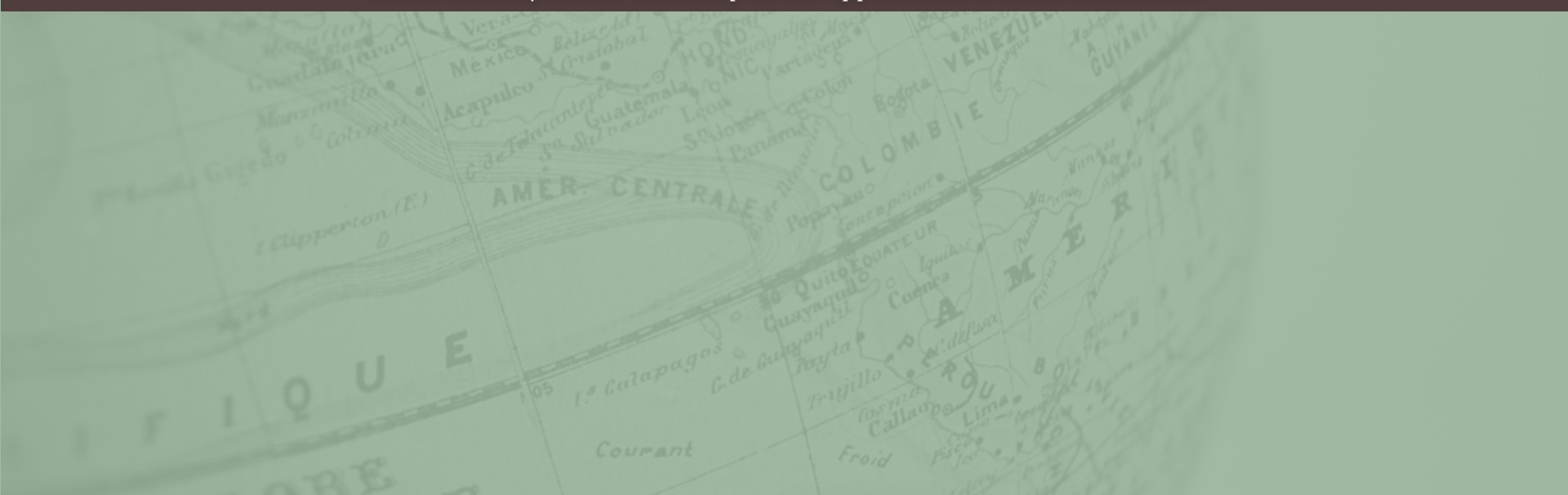# INSTALLATION AND CONFIGURATION OF THE COMBINED GPS/GLONASS RECEIVER FOR MONITORING THE SCINTILLATION IMPACT ON IONOSPHERE

Jasmin Ćelić, mag.ing.el. / Sanjin Valčić, mag.ing.el.
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OVERVIEW

- The highly accurate GPS 19x HVS position receiver/antenna provides up to 10 Hz update rates for position, velocity and time data.

- It offers high-sensitivity reception and enhanced position acquisition.

PRECISE LOCATION DATA

- This 32-channel receiver is capable of tracking multiple global navigation satellite systems, including GPS, GLONASS, Galileo and QZSS.

- With more visible satellites it provides enhanced position, heading and speed accuracy delivered up to 10 times more often than other types of receivers/antennas.

- Wide Area Augmentation System (WAAS)-capable, it can determine precise location to within 3 m (9.84 ft).

OBSERVABLE ADVANTAGES

- Waterproof (IPX7) sensor of GPS 19x HVS receiver can be pole mounted or flush mounted.

- It can be attached to the underside of various case designs for added ease of installation.

- It can also be configured to have 1 Hz or 5 Hz update rates to help support specific installation requirements.
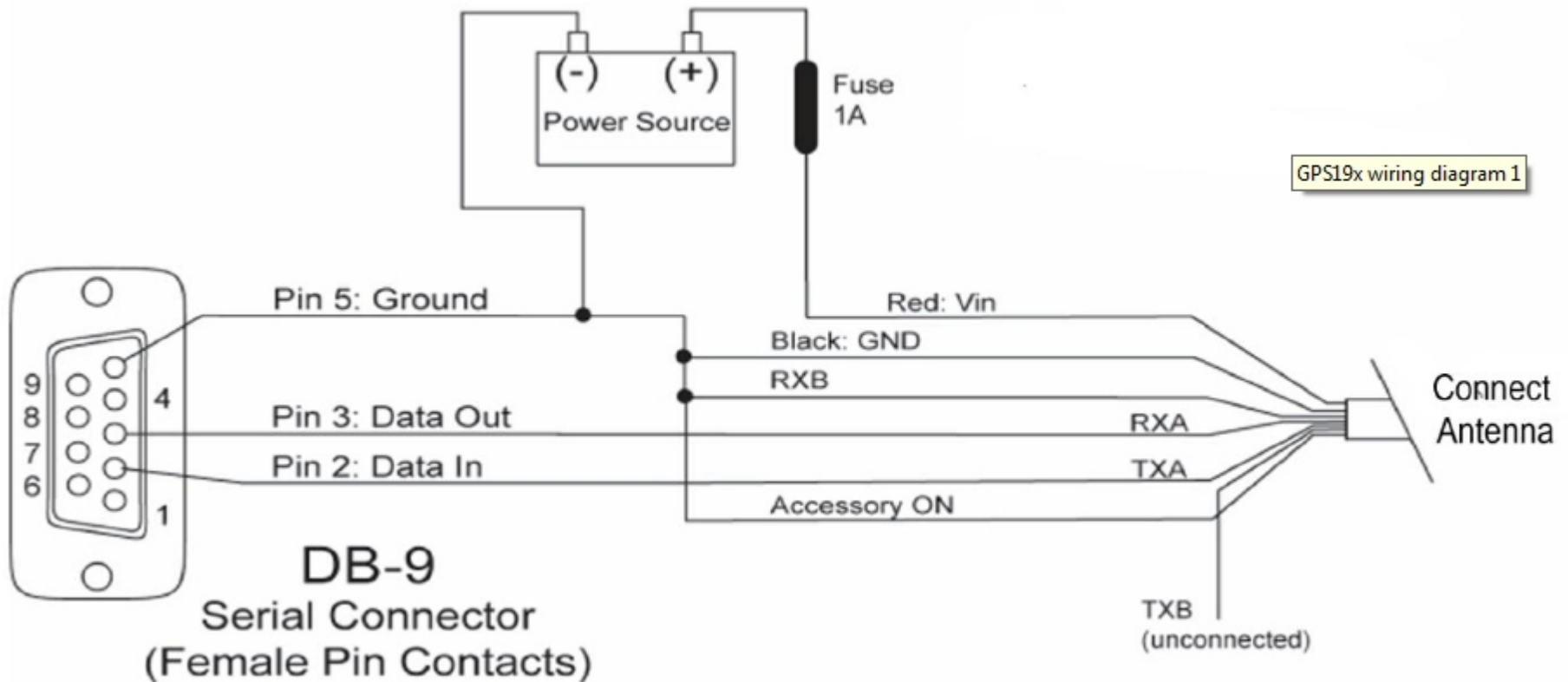
GPS PERFORMANCE

- Acquisition times
  - reacquisition: less than 2 seconds
  - hot: approx. 1 second
  - warm: approx. 38 seconds
  - cold: approx. 45 seconds

- Update rate
  - 1, 5 or 10 records per second

- Accuracy
  - GPS Standard Positioning Service (SPS)
    Position: < 15 meters, 95% typical

  - WAAS/EGNOS/MSAS
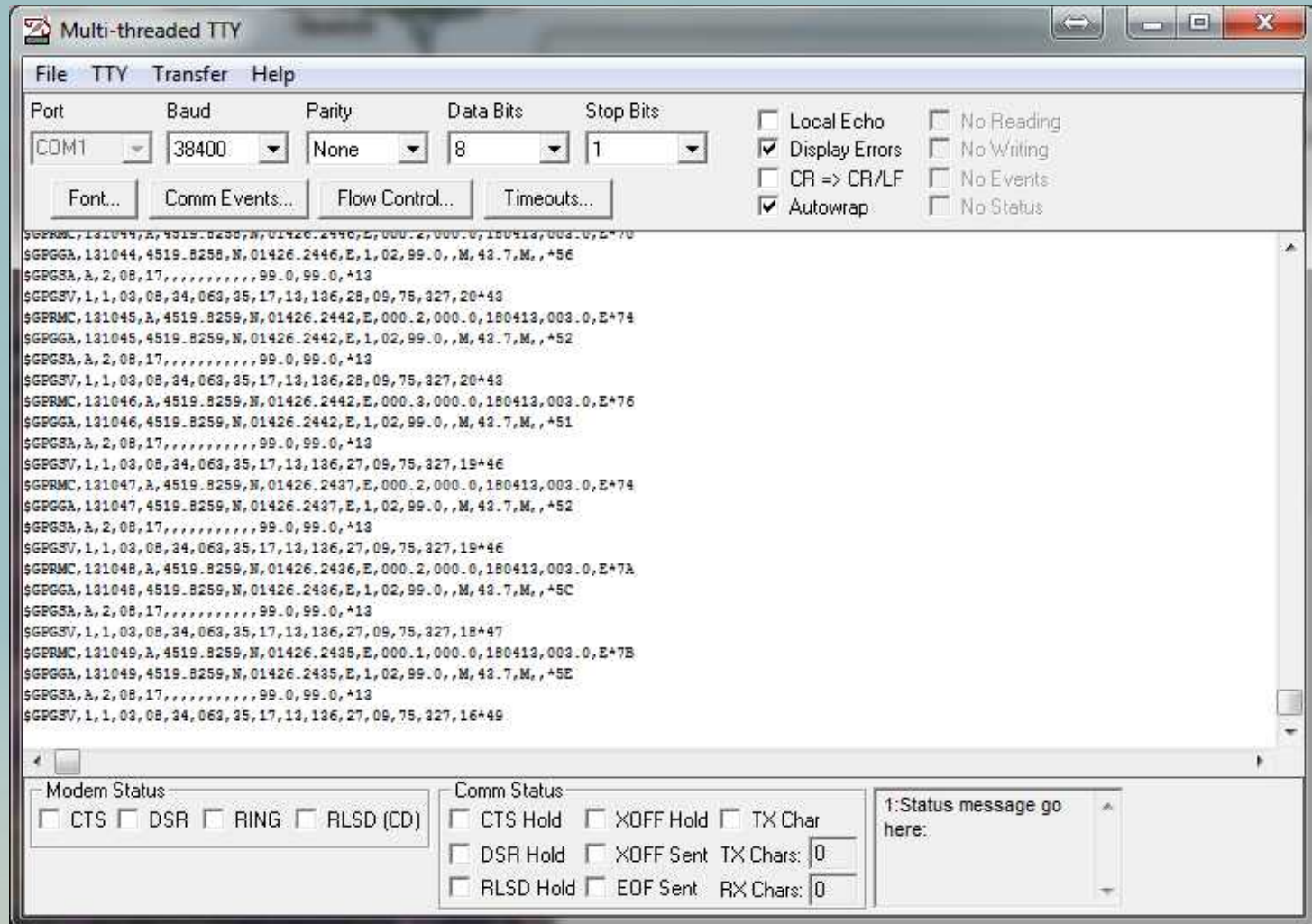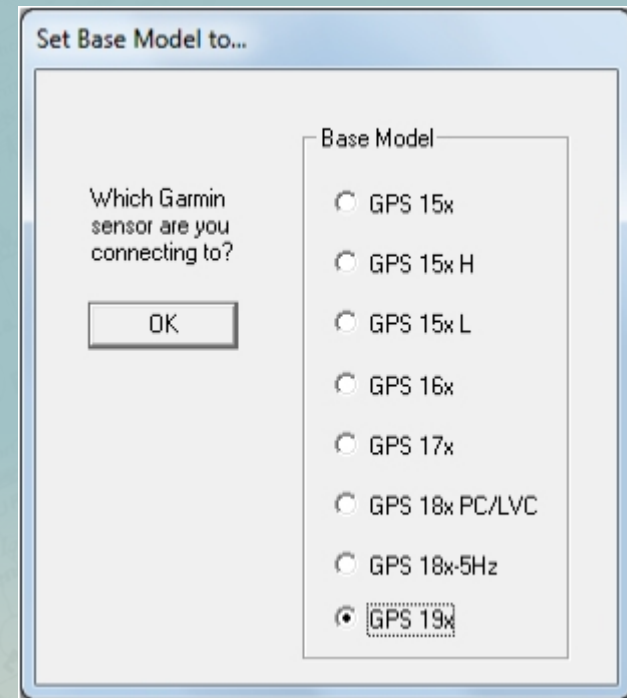   Position: < 3 meters, 95% typical

WIRING ANTENNA ON RS232 PORT

GPS19x wiring diagram 1

TESTING CONNECTION WITH MTTTY

- SNSRXCFG configures the GPS sensor based on user selected parameters.
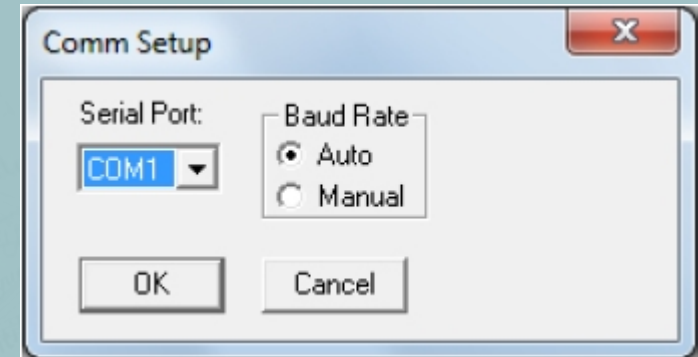
- Selecting a type of sensor

Set Base Model to...

Which Garmin sensor are you connecting to?

OK

Base Model

- ○ GPS 15x
- ○ GPS 15x H
- ○ GPS 15x L
- ○ GPS 16x
- ○ GPS 17x
- ○ GPS 18x PC/LVC
- ○ GPS 18x-5Hz
- ● GPS 19x

SENSOR CONFIGURATION WITH SNSRXCFG

- Main Interface Screen for the sensor connection
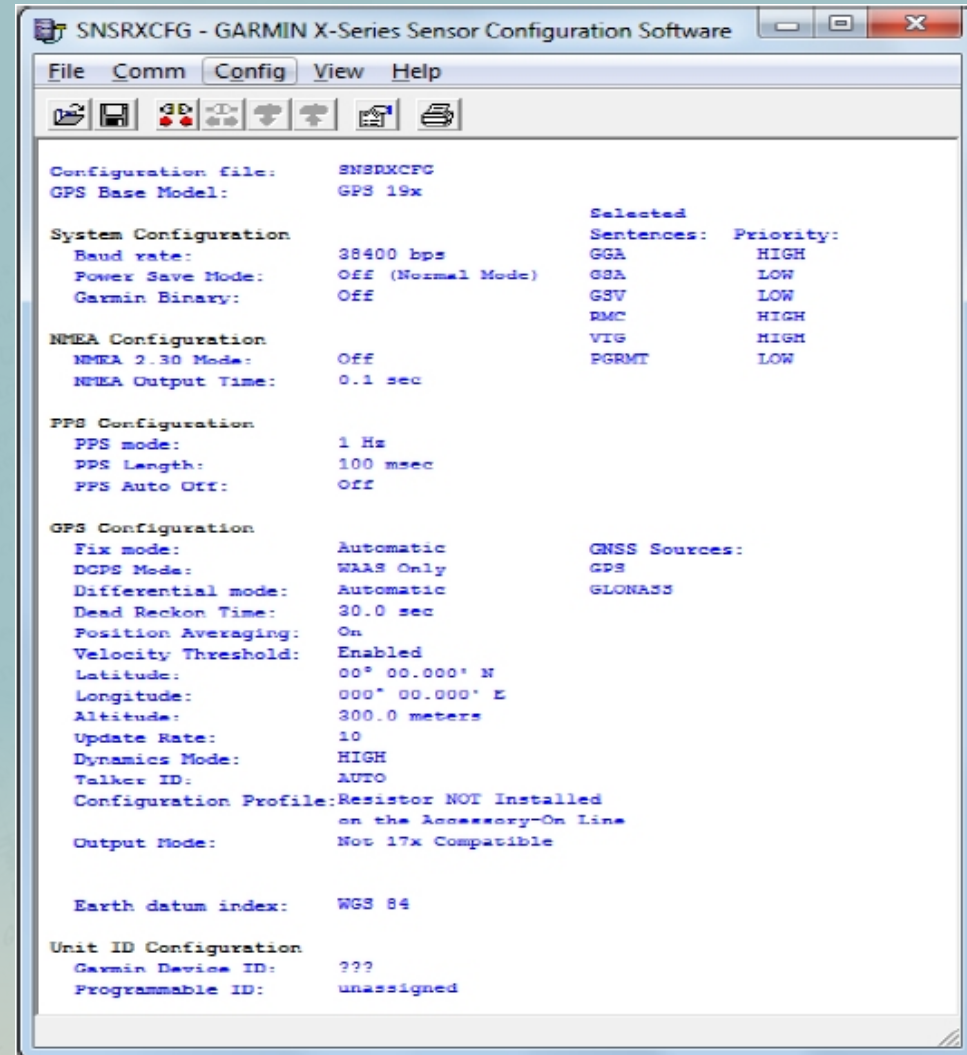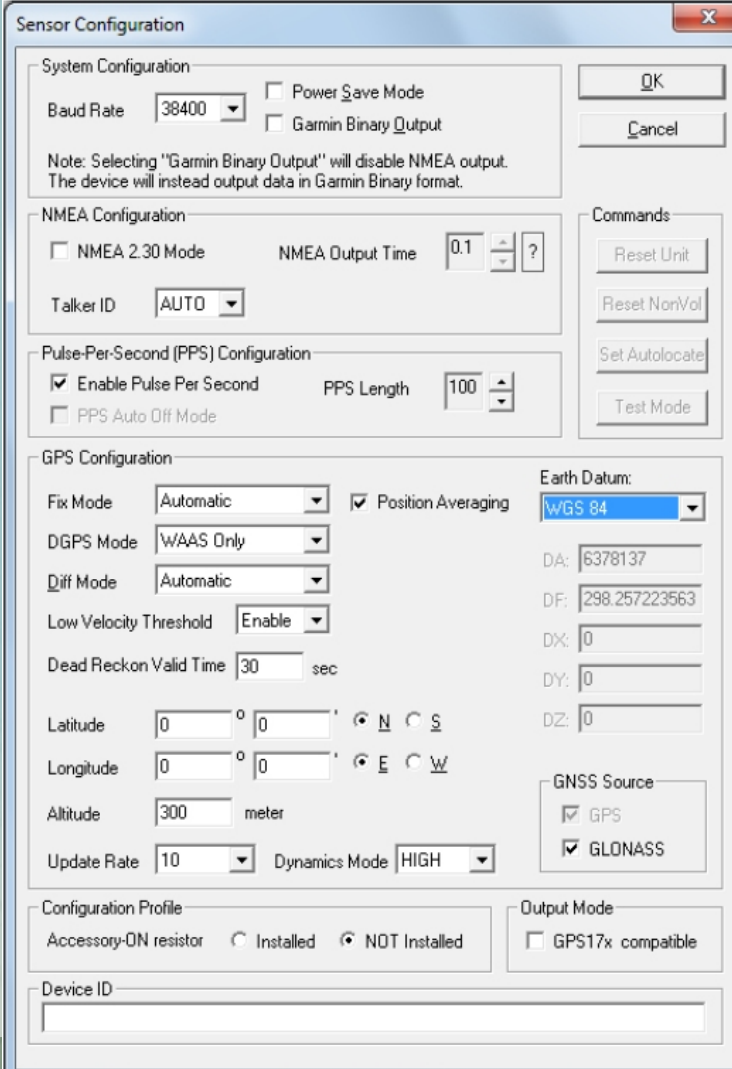
SENSOR CONFIGURATION WITH SNSRXCFG

- The Comm (Communication) Menu allows setting the port number and baud rate.

- This configuration used COM1 serial port and was set up manually to 38 400 bps.

- Properly connected sensor allows configuration changes.

SOFTWARE FOR MONITORING

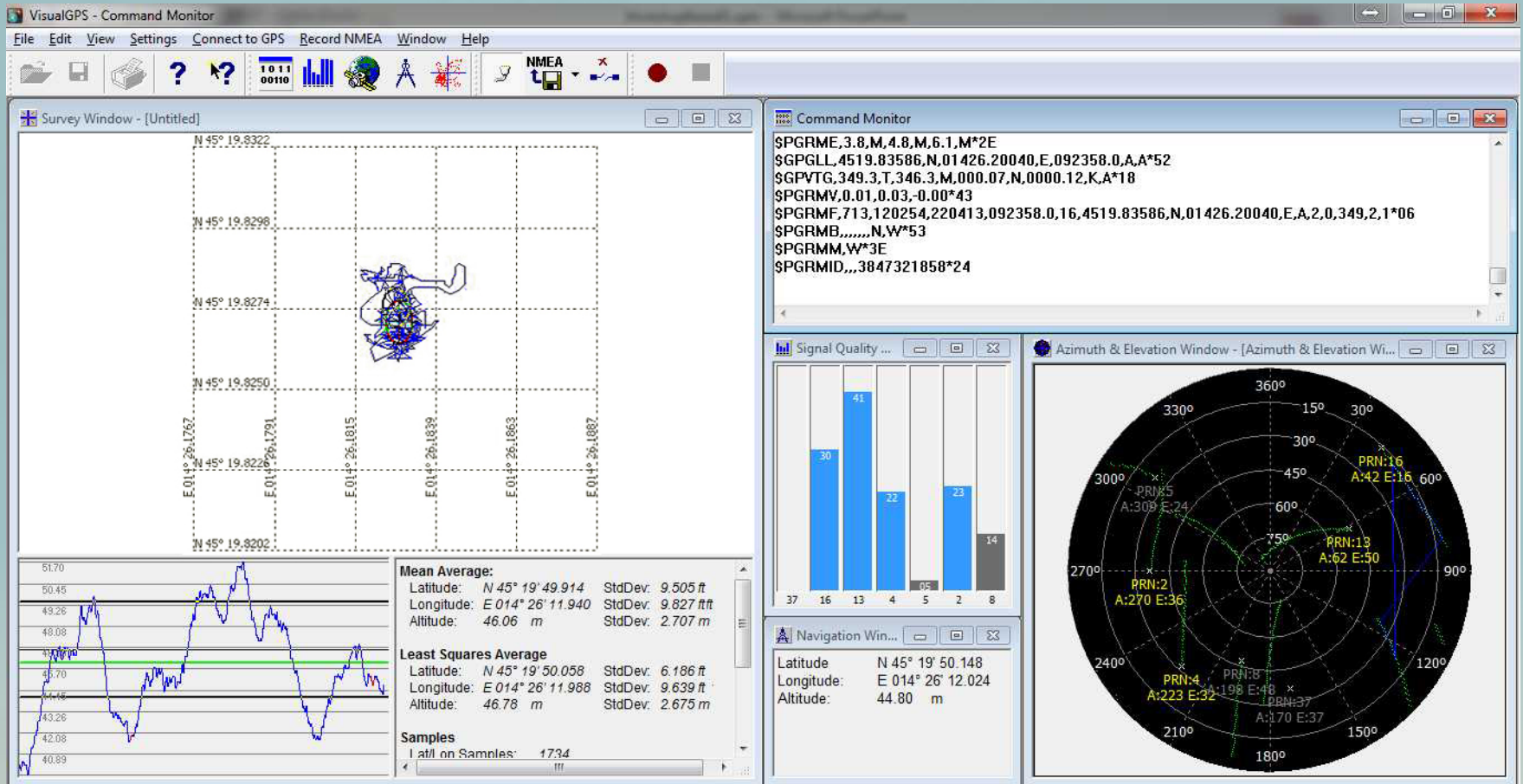# THANK YOU FOR YOUR ATTENTION!