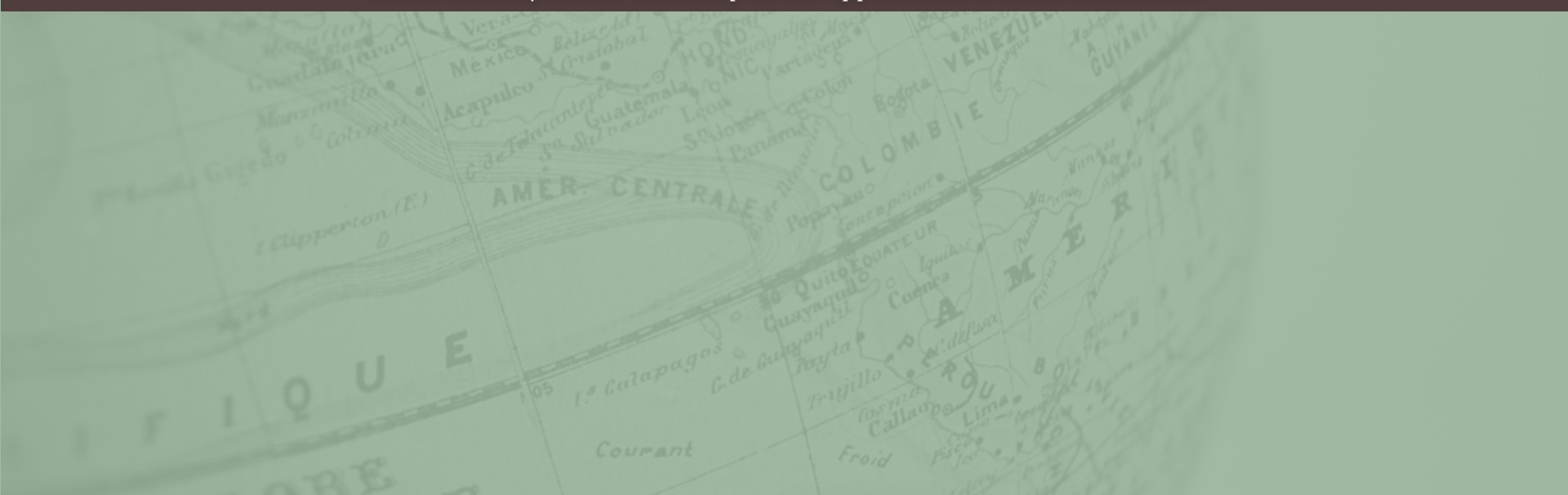


INSTALLATION AND CONFIGURATION OF THE COMBINED GPS/GLONASS RECEIVER FOR MONITORING THE SCINTILLATION IMPACT ON IONOSPHERE

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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

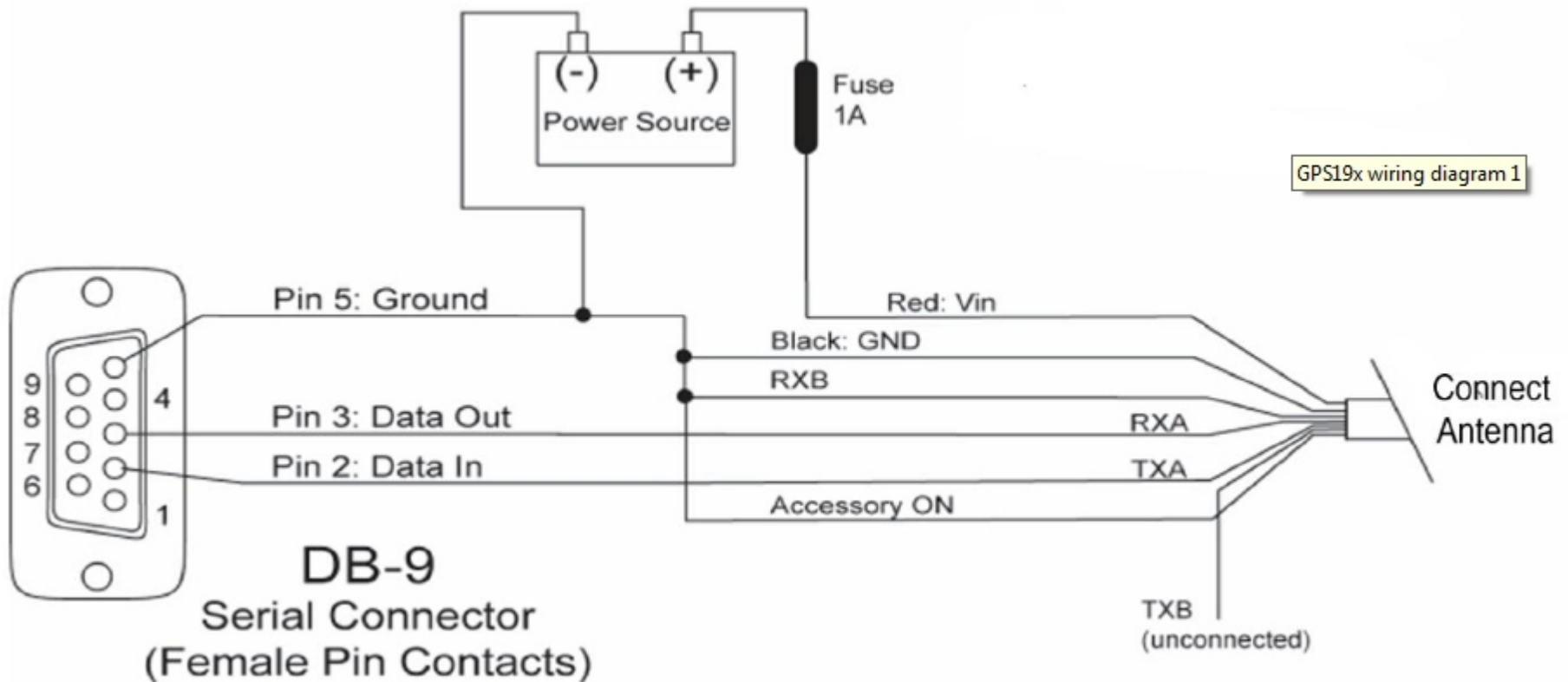
- Acquisition times
 - reacquisition: less than 2 seconds
 - hot: approx. 1 second
 - warm: approx. 38 seconds
 - cold: approx. 45 seconds
- Update rate
 - 1, 5 or 10 records per second
- Accuracy
 - GPS Standard Positioning Service (SPS)
Position: < 15 meters, 95% typical
 - WAAS/EGNOS/MSAS
Position: < 3 meters, 95% typical



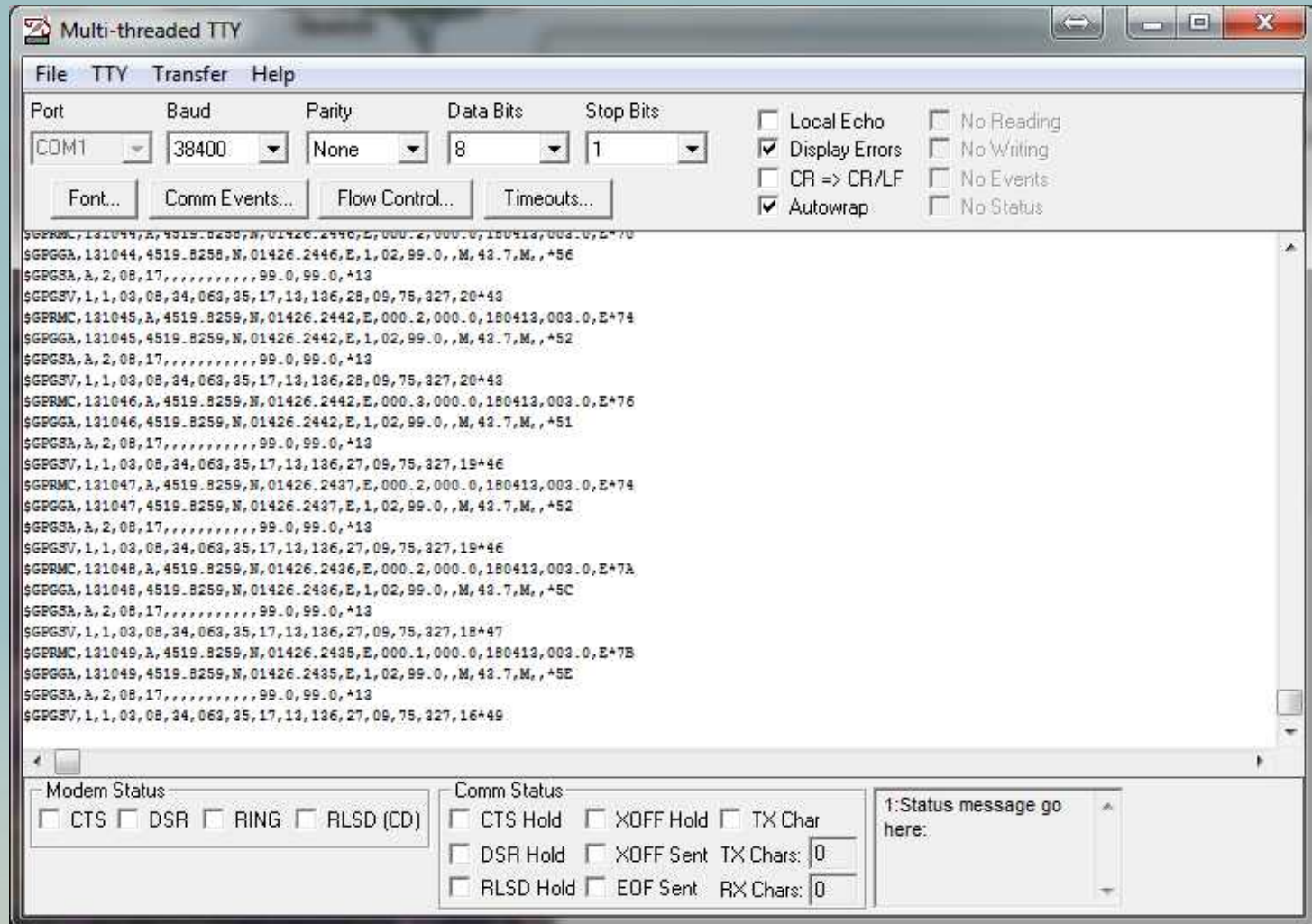
WIRING ANTENNA ON RS232 PORT



WIRING ANTENNA ON RS232 PORT

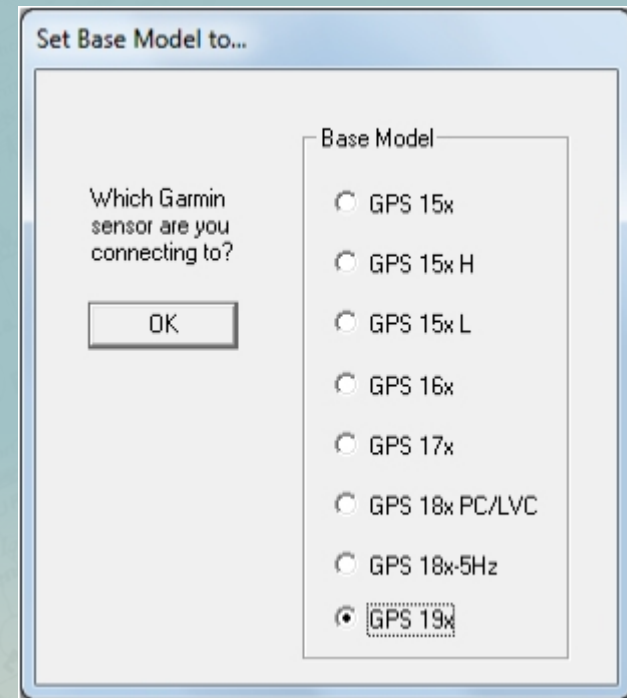


TESTING CONNECTION WITH MTTY



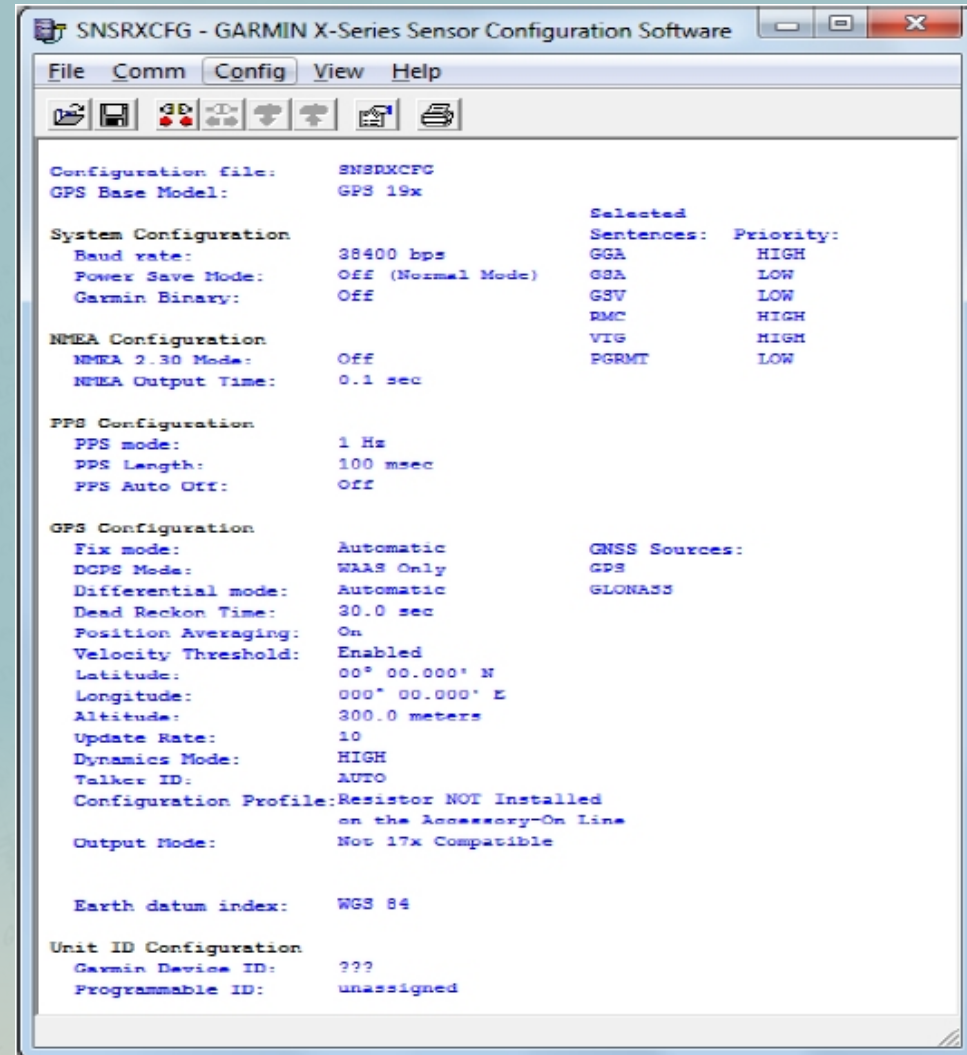
SENSOR CONFIGURATION WITH SNSRXCFG

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



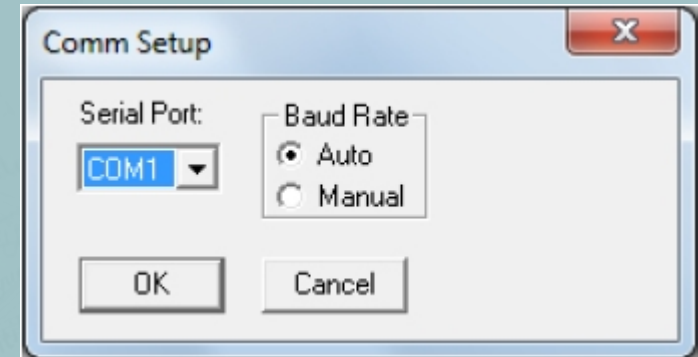
SENSOR CONFIGURATION WITH SNSRXCFG

- Main Interface Screen for the sensor connection



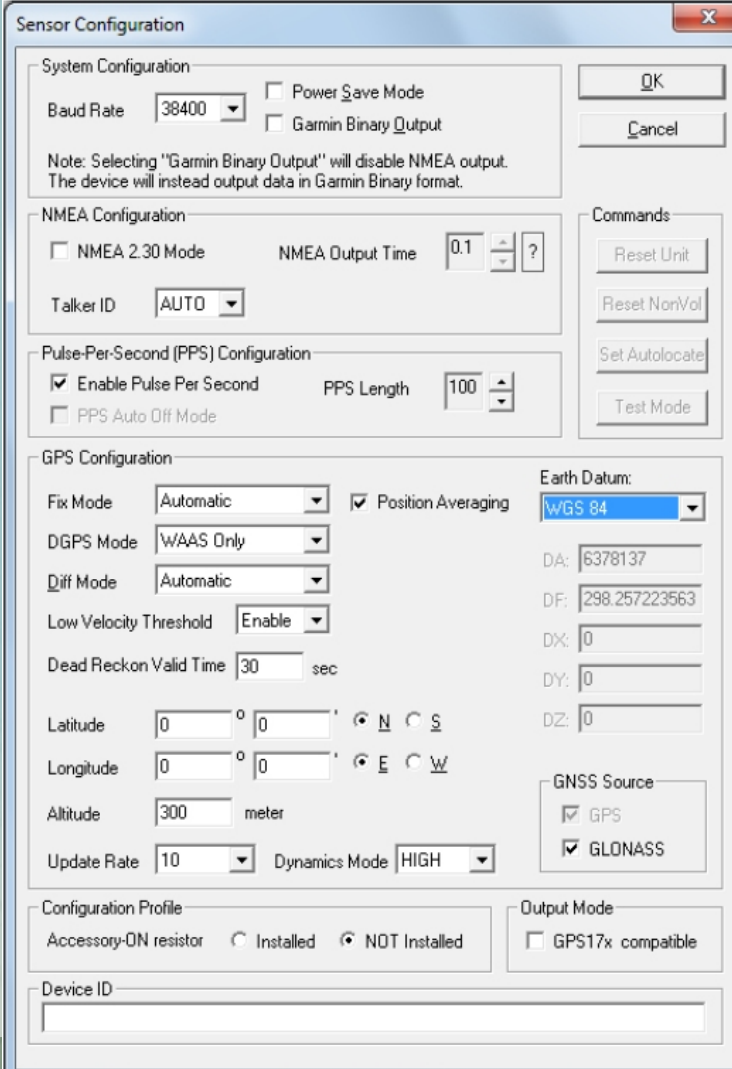
SENSOR CONFIGURATION WITH SNSRXCFG

- 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.



SENSOR CONFIGURATION WITH SNSRXCFG

- Properly connected sensor allows configuration changes.

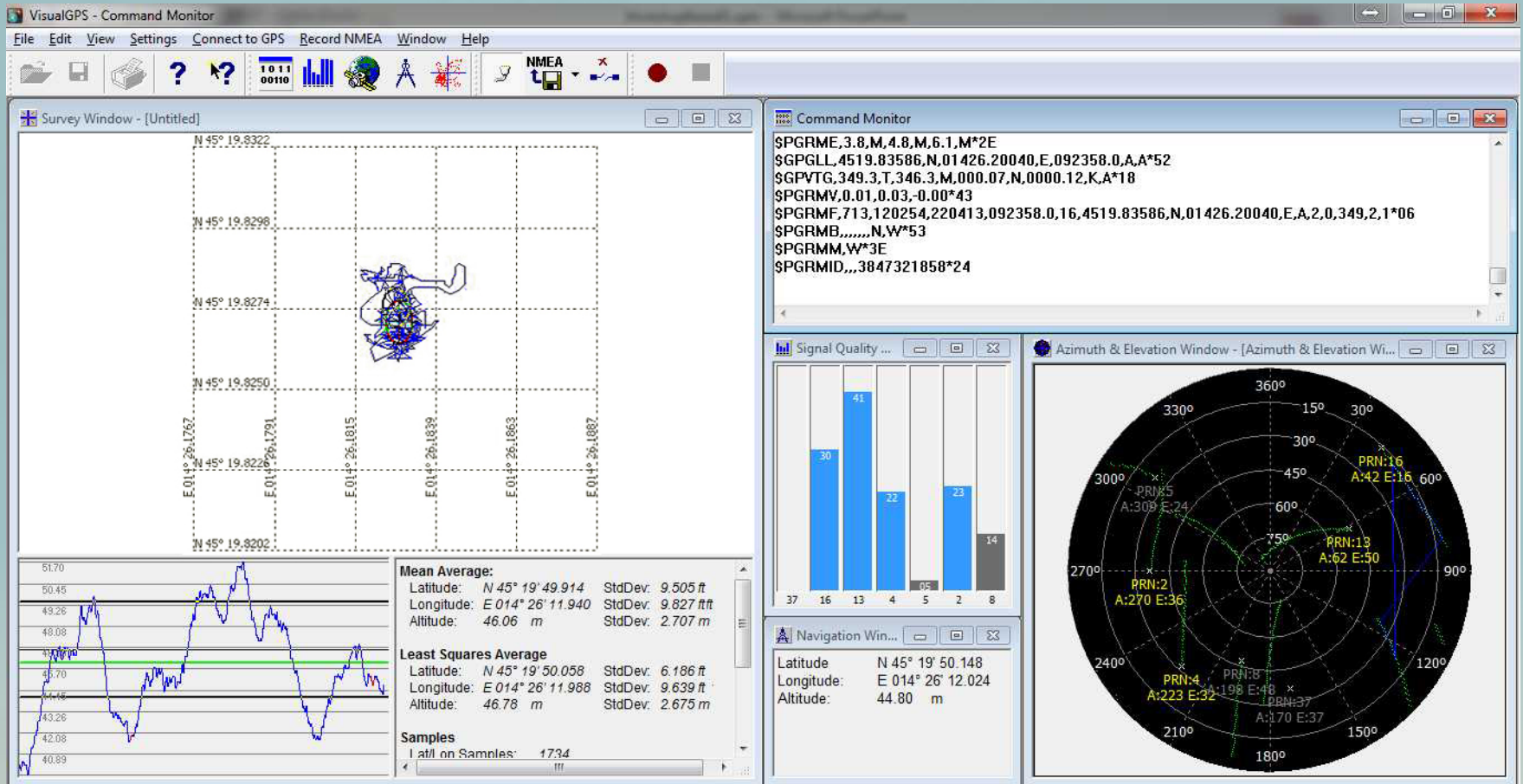


The screenshot shows the "Sensor Configuration" dialog box with the following settings:

- System Configuration:**
 - Baud Rate: 38400
 - Power Save Mode:
 - Garmin Binary Output:
 - Note: Selecting "Garmin Binary Output" will disable NMEA output. The device will instead output data in Garmin Binary format.
- NMEA Configuration:**
 - NMEA 2.30 Mode:
 - NMEA Output Time: 0.1
 - Talker ID: AUTO
- Pulse-Per-Second (PPS) Configuration:**
 - Enable Pulse Per Second:
 - PPS Auto Off Mode:
 - PPS Length: 100
- GPS Configuration:**
 - Fix Mode: Automatic
 - DGPS Mode: WAAS Only
 - Diff Mode: Automatic
 - Low Velocity Threshold: Enable
 - Dead Reckon Valid Time: 30 sec
 - Latitude: 0° 0' N
 - Longitude: 0° 0' E
 - Altitude: 300 meter
 - Update Rate: 10
 - Dynamics Mode: HIGH
 - Position Averaging:
 - Earth Datum: WGS 84
 - DA: 6378137
 - DF: 298.257223563
 - DX: 0
 - DY: 0
 - DZ: 0
 - GNSS Source: GPS, GLONASS
- Configuration Profile:**
 - Accessory-ON resistor: Installed, NOT Installed
- Output Mode:**
 - GPS17x compatible:
- Device ID:** [Empty text box]

Buttons: OK, Cancel, Reset Unit, Reset NonVol, Set Autolocate, Test Mode.

SOFTWARE FOR MONITORING



THANK YOU FOR YOUR ATTENTION!

