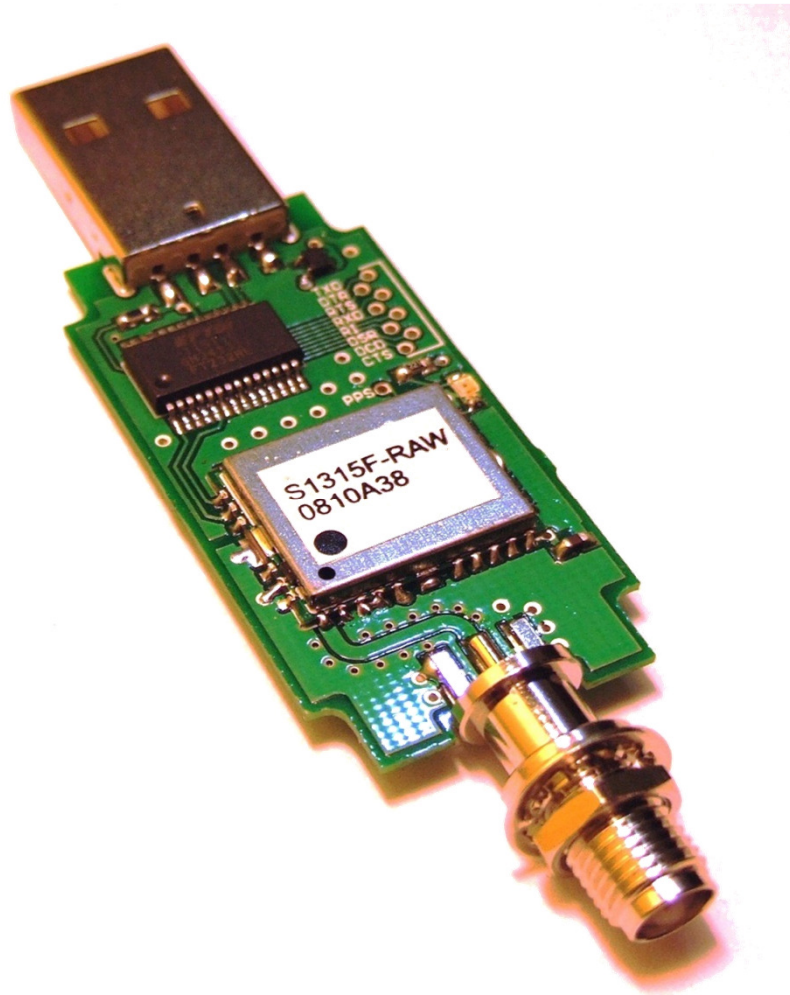


Yuan10

<10cm accuracy* for everyone



Main components

- FTDI FT232RL USB-Serial IC
- Skytraq S1315F-RAW GPS receiver
- Regular SMA Female RF connector
- Rechargeable backup battery

GPS specifications

- 65 channels GPS L1 C/A
- Tracking sensitivity -161dBm
- Power consumption <150mW
- Raw measurements (up to 20Hz)

Features

- No specific drivers needed
- Easy evaluation with free software for high accuracy (RTKLIB, goGPS, ..)

*Open sky, quality antenna, differential mode



Basic usage on MS Windows™

- Open Skytraq's *GPSViewer*
- Plug Yuan10 into a USB port
- Plug the antenna to the SMA connector
- Wait for *GPSViewer* to detect a serial port and connect to it

The screenshot displays the SkyTraq 0.4.830 software interface. The window title is "SkyTraq 0.4.830" and the menu bar includes "File", "Binary", "1PPS Timing", "Ephemeris", "Navigation Mode", "Download", "Converter", "WAAS", and "Help".

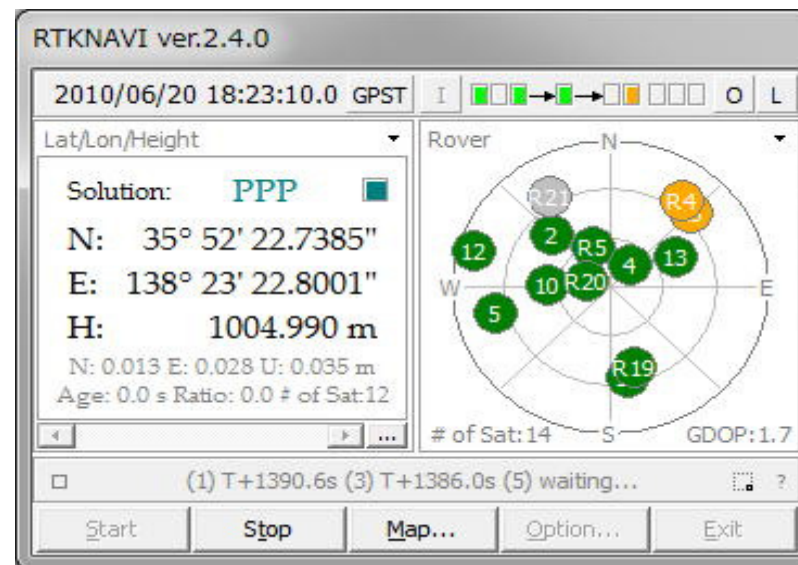
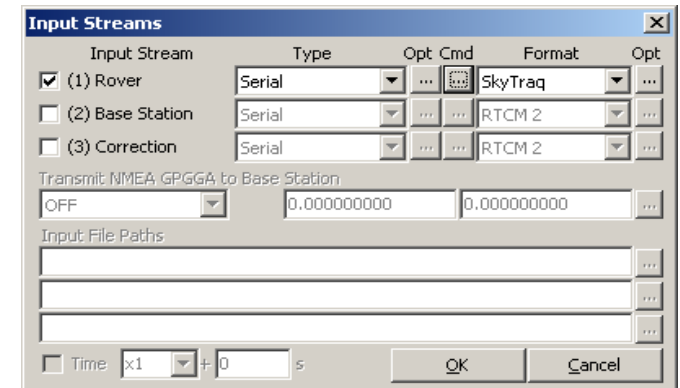
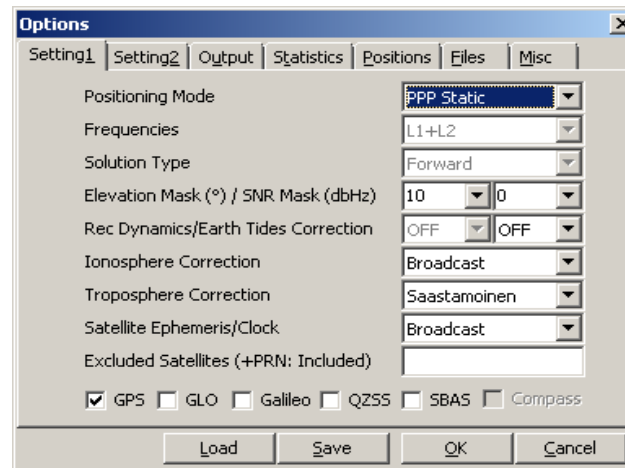
On the left side, there are controls for "Com Port" (COM12) and "Baudrate" (115200). Below this is a "Message" section showing "Position fix 3D" with NMEA sentences: "SGPGSV,3,1,11,11,79,306,49,32,66,237,50,01,57,307,5", "SGPGSV,3,2,11,14,40,067,50,20,36,243,43,22,18,057,4", and "SGPGSV,3,3,11,03,15,163,24,06,08,156,17,17,03,321,*". A "Response" section is empty. The "COORDINATE" section shows WGS84 coordinates: X (4541582.202), Y (833821.725), Z (4385195.908), EAST (3.627), NORTH (-2.407), and UP (-4.000). The "Command" section has buttons for "Hot start", "Warm start", "Cold start", "No Output", "NMEA0183", "Binary", "Scan All", "Scan Port", and "Scan Buad.".

The main display area features a globe with satellite numbers (1, 11, 14, 19, 20, 22, 28) and a "GPS" section with a bar chart showing signal strength for satellites 1-28. Below this is a "GLONASS" section with a bar chart for satellites 29-56. A "Scatter" plot shows a 2D distribution of points in a coordinate system with axes labeled N, S, E, and W, ranging from -2 to 2 meters. The plot includes "2D RMS" (9.8056) and "CEP 50%" (7.7530) values. To the right of the scatter plot are controls for "TTFF (Sec.)" (1), "COOR." (ENU), "SCALE" (1m), "Set Origin", and "Clear".

At the bottom right, the file path is shown: "C:\Users\Michele\MYWORK\Equip\Skytraq\GNS Viewer\prom.bin".

Usage with RTKLIB (standalone)

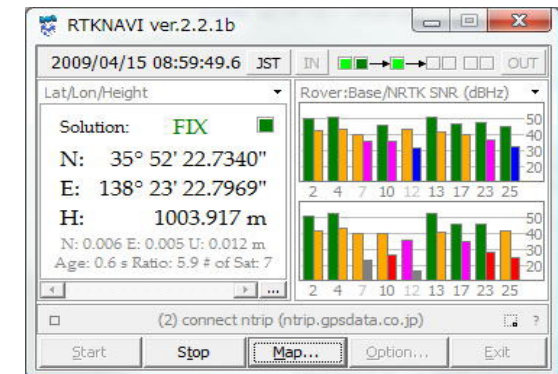
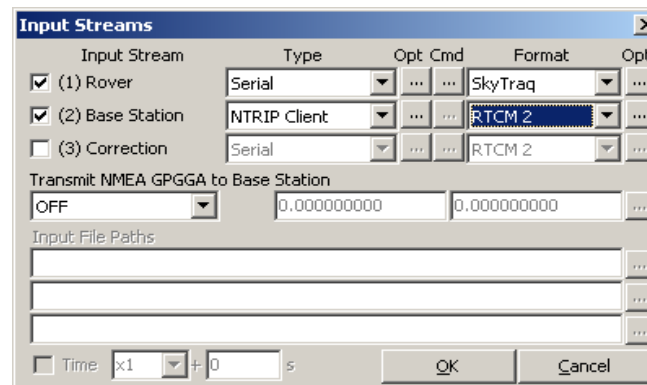
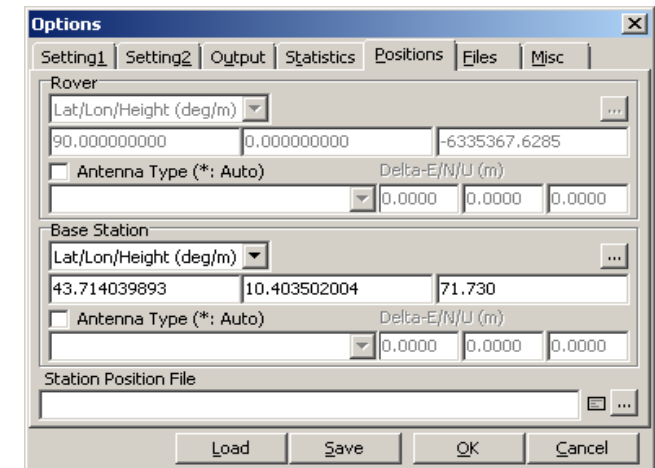
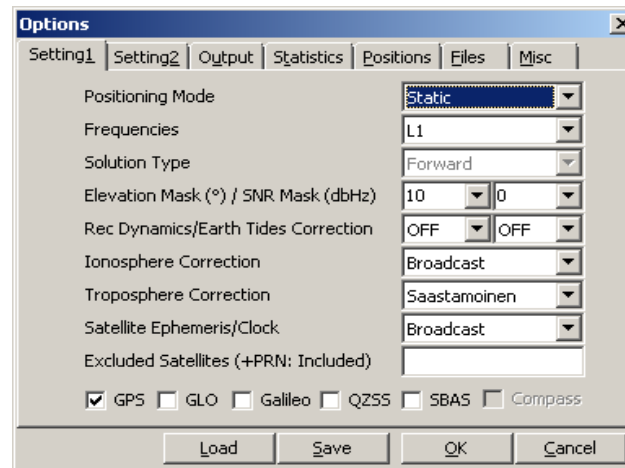
- Open RTKNav and configure it for **PPP**
- Choose to the serial port associated to Yuan10 (e.g. COM1)
- Choose options 115200 bps, 8 bit, no parity, 1 stop bit
- Choose the commands from the file *skytraq_raw_1hz.cmd* in the *data* folder of RTKLIB.
- Choose format "Skytraq"
- Choose optionally to log the PVT solution, the raw data, or both
- Start RTKLib



Usage with RTKLIB (differential)

FOR USERS WITH A BASE REFERENCE STATION

- Open RTKNavi and configure it for **Static/Kinematic**
- Configure Yuan10 as rover, as per the standalone mode
- Choose optionally to log the PVT solution, the raw data, or both
- Start RTKLib



Usage with RTKLIB (moving-base)

FOR RELATIVE POSITIONING

- Open RTKNavi and configure it for **Moving/Base**
- Configure **two Yuan10**: one as rover the other as base, with the settings used for the standalone mode
- Choose optionally to log the PVT solution, the raw data, or both
- Start RTKLib

