

Panorama

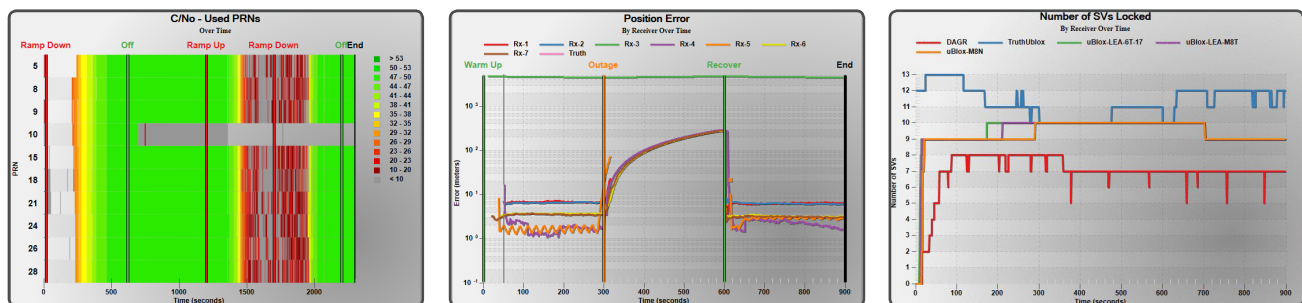
Visual Analysis Tool for GNSS Receiver Data

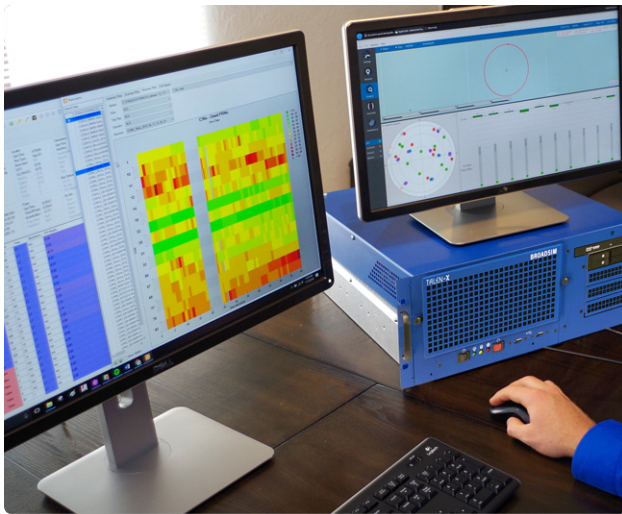
What is Panorama?

Panorama is the flagship tool for easily analyzing receiver data. When engineers use Panorama they spend more time looking at plots and making decisions, instead of making plots and writing reports. Panorama takes receiver data (.csv files) and turns it into over 60 engineering plots ready to view at the click of your mouse. These plots give engineers and analysts the ability to view summary level data, head to head comparisons, receiver specific results, and 3D LLA replays using STK.

Applications

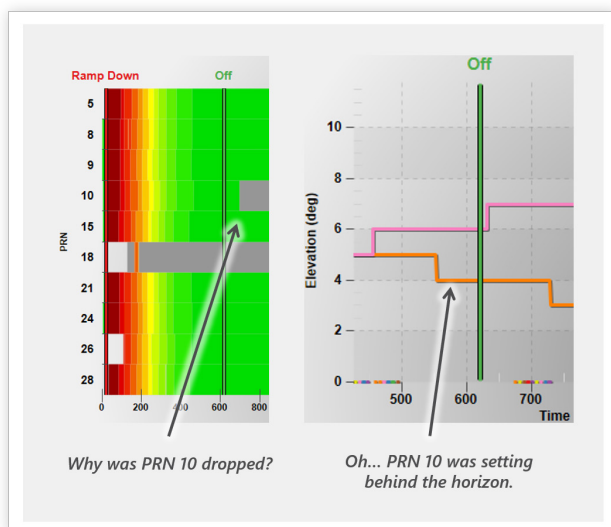
While the focus of a field test is generally on the test articles, participants, and timelines, a larger consideration should be the data collection process and how that data will be used to arrive at conclusions. Many hours are spent on building test log formats, timescales, and data entry forms. These are still beneficial to provide cross checks but the focus should be on automating the data collection and the ability to quickly and confidently analyze the data. Time stamping is crucial and in some cases, external references must be used. These files should also have a consistent format to enable comparison and analysis easily and without question. These files along with the analysis artifacts need to be made available to support the report and permit future testers to dig into the data in preparation for future tests.





COMPARISONS & DEEP DIVES

Panorama makes it easy to directly compare the performance of several receivers simultaneously. Powerful visualizations make it easy to evaluate. Panorama provides the tools to “deep dive” into the receiver data to analyze why the receiver performed the way it did, and identify specific causes.



ENGINEERING PLOTS

Scenario Plots	Receiver Plots
Number of SVs Used	Number Used/Locked
Number of SVs Locked	Position Error
Position Error	Velocity Error
Velocity Error	Position Error Estimate
Pulse Error	Pulse Error
Absolute Pulse Error	Absolute Pulse Error
ET Position Error	ET Position Error
3D LLA	DOP
Log Map	C/No Used
Map	C/No All
Fix Statistics	Track State Used
Date	Track State All
Slope of GPS Time	Code Type Used
Slope of UTC Time	Code Type All
Frame Time Error	Frequency Used
Summary Plots	Frequency All
Average # of SVs Used	Range Residuals - Line
Average # of SVs Locked	Range Residuals - Heat
Average Position Error	Sky Plot
Average Velocity Error	SV Elevation
Average Pulse Error	SV Azimuth
Average Date	Date
More...	UTC/GPS Time Comparison