PANACEA Field Test

Autonomous PVT (Position, Velocity, and Timing) Data Collection Tool
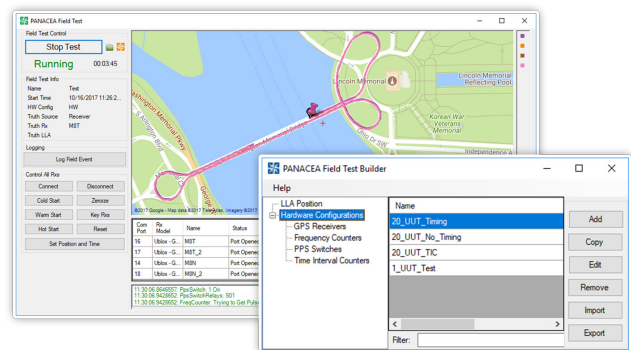
What is PANACEA Field Test?

PANACEA Field Test (PANACEA FT) is a tool used to collect position, velocity, and timing (PVT) data from multiple GNSS receiver simultaneously. This tool was designed to allow for easy data collection from multiple receivers in a real world environment where the GNSS receivers are connected to an antenna. All the data is logged in .csv format, time stamped, and automatically compared to the configured truth source. By configuring a truth source, position, time, velocity, date, and other error plots and tables can be automatically generated for all receivers. The PANACEA FT GUI plots receiver's position in real time overlaid on open street maps. This allows real time visualization of how all connected receivers are performing in the environment compared to the truth source. Spectrum monitoring and logging is also achievable with additional Hardware (Signal Hound).

BUILDER + RUNNER (SOFTWARE TOOLS)

The Builder allows you to configure hardware that is connected to your computer such as GNSS receivers, a frequency counter, PPS switch, Signal Hound or time interval counter. You can also specify LLA coordinates used as truth locations. While PANACEA simultaneously communicates with up to 32 Units Under Test (UUT), the Runner shows real-time UUT information while recording all receiver data in files for post-processing.

APPLICATIONS

PANACEA Field Test is ideal for applications requiring data collection from multiple GPS/GNSS receivers simultaneously while instantly providing visuals for analysis and error calculation. Typically this software is used in field testing environments where the GPS/GNSS receivers and other equipment are configured inside of a mobile vehicle or at a building on the test range.

HARDWARE EFFICIENCY

Power resources, space, and equipment are often limited which means having efficient tools can be the difference between collecting data from 2 receivers and collecting data on 20 receivers. Having the right equipment is critical. PANACEA FT comes with optional hardware accessories such as a frequency counter and Pulse Per Second (PPS) relay switch, which are integrated into the software suite.

PPS ACCURACY

Measuring a receivers PPS accuracy is easier than ever with PANACEA FT, as it controls the frequency counter and PPS relay switch, supports the measurement of up to 16 receivers simultaneously, and the user never worries about configuring the system. The PPS measurement dwells on each channel for 1 second before jumping to the next channel (e.g. 4 Rx's = 1 PPS measurement every 4 seconds for each Rx).

EQUIPMENT NEEDED

Equipment **With** Time Measurement
Everything listed to the right
Agilent 53230 frequency counter
For Multiple UUTs:
16-port PPS switch

Equipment **Without** Time Measurement	
Laptop	Data cables: USB, Serial, Ethernet
GPS/GNSS receivers	GPS/GNSS Antenna
For multiple UUTs:	
RF splitter/combiner (May require DC blocks if ports are not)	
RF cables to connect receivers to the splitter/combiner	

Standard configuration with time measurement