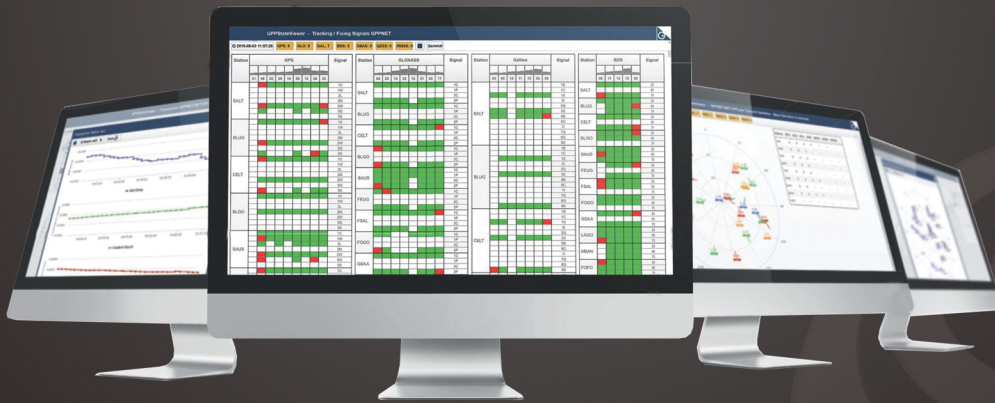


Software for GNSS Network



GNSMART2 FEATURES

- Supports all operative frequencies and constellations.
- It's a receiver independent software: it supports more than 20 proprietary formats from different GNSS manufacturers and it's able to estimate receiver's hardware bias.
- Allow data transmission in CMR, CMR+, RTCM (2x, 3x), NMEA formats.
- Support more than 200 permanent stations, Stonex brand or third parties.
- It's based on a modular architecture, so it's easily scalable depending on network extension.
- It implements a smart and efficient usage of the process' shared memory.
- Retrieve, verify, transmit, and archive GNSS data (GPS, and other NMEA messages) from permanent station observations in RINEX format.
- Automatically receive GNSS observation files without loss after any receiver disconnection.
- It implements typical OSR (Observation State Representation) approach for RTK corrections, which main products are:
 - FKP
 - VRS
 - MAC
 - Nearest
 - Correction from single station
- It implements the innovative SSR (Space State Representation) approach.
- The typical output formats are RTCM 2 and RTCM 3 (MSM).
- It includes an internal caster for correction delivery which supports both NTRIP v 1.0 and NRTIP v 2 protocol.
- Configure, control, manage, and broadcast GNSS data received from a network of permanent GNSS stations.
- Have a central database for efficient and secure archiving of all system configurations and parameters.
- Provide a web interface that allows subscribers to interact and quickly download RINEX data with the ability to customize sampling intervals, recording frequencies, and file formats.
- Provide online coordinate calculation services with detailed result reports.
- Provide virtual RINEX data and coordinate transformation services.
- Enable the management of download transactions and final billing to customers.
- Introduce national geoid grids and coordinate transformations into the corrections transmitted to mobile users and online post-processing service.
- Enable the calculation of RTK and NRTK corrections with all types of mounting points (FKP, VRS, MAC).
- Web based User Interface for:
 - Detailed data visualizations from the single station belonging to the network (such as sky plot, SNR, and observables plots)
 - Status of the network and the solution (in particular, difference with the official coordinates, ionosphere, and troposphere status)
 - Virtual RINEX Generation and download
 - Administration and user management
- Improve signal processing and error source determination and modeling using raw GNSS data received from reference stations.
- Verify the completeness and quality of all data downloaded from reference stations and provide a Quality Control file.
- Convert proprietary binary files to RINEX v2.11 and v3.X or compressed Hatanaka RINEX.
- Visualize the status of GNSS reference stations and mobile network users on an online graphical web interface and generate reports of these events.
- It can record user's activity and generate report showing statistics on:
 - Number of users connected to the network
 - Hours of connection
 - Mean time for the connection
- Enable data transmission via TCP/IP and NTRIP communication protocols, GSM modem.
- Support communication devices with GSM modules (4G, VPN) and internet routers (ADSL, VPN, fiber).
- Provide the ability to configure 2 communication channels for each site and automatically switch from one to the other in case of a failure.
- Detect and resolve errors that may occur and generate warnings to administrators.
- Provide tools to allow the GNSS network management software to securely and reliably broadcast corrections to users over the NTRIP internet.
- Update all software modules during the warranty period.
- Have a network quality control tool.



STONEX AUTHORIZED DEALER

STONEX®
Part of **UniStrong**

Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy
Phone +39 02 78619201
www.stonex.it | info@stonex.it