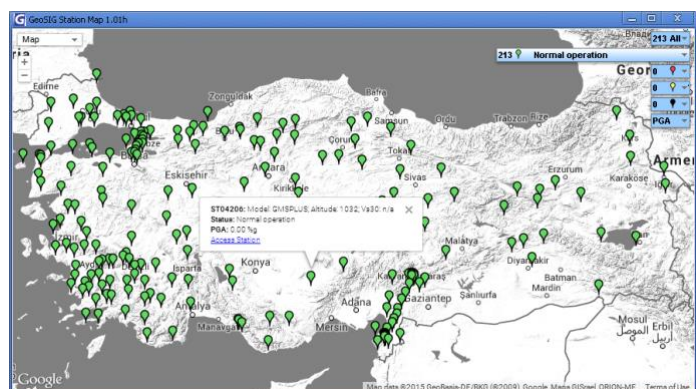
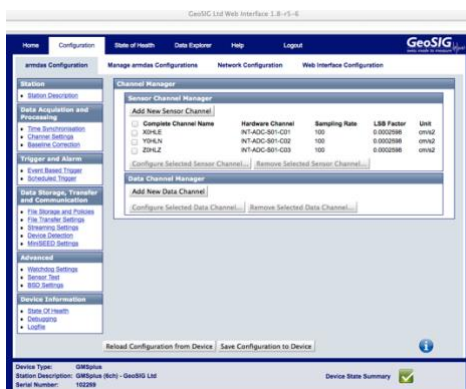


## GMSplus Outstanding Features

This list is an overview of the **outstanding** benefits of seismic and earthquake monitoring solutions created using GMSplus series recorders, AC-73 series sensors and GeoDAS software.

- **Optional: built-in battery and charging circuit with temperature compensation**
- Built-in battery can be easily changed without the risk of touching any electronic circuit
- Built-in temperature sensor
- Optional: 90 to 230 VAC / 15 VDC external power adapter
- 12 to 15 VDC power supply connector, optional: 9-36 VDC or 18-72 VDC
- **Rustproof cast aluminium housing**
- Lockable housing can be easily opened
- Mounting base plate allows exchanging the instrument in a few minutes, even by an unskilled person (the instrument can not be removed / changed when the housing is locked)
- **Both "stream" and "record event" from the same data channels at the same sampling rate simultaneously.**
- **Send peak ground motion (PGM) parameters to the user via e-mail or SMS (optional)**
- Removable SD card
- **Optional: built-in WiFi (wireless LAN) module (802.11 b / g / n, WEP, WPA, WPA2, TKIP, AES)**
- **Optional: external USB-3G modem powered by GMSplus (both the instrument and the communication are battery supported)**
- **Optional: two or three LAN interfaces can be used simultaneously (wired, wireless, and USB-3G)**
- Optional: external USB connector, external on / off switch, external alarm relay connector, external "Interconnection Network" connector
- A recovery server can be configured thus downtime resulting from communication problems is minimized
- **Accessible through the internet/LAN/WAN/3G without a fixed IP**
- All instruments on the same LAN can be detected automatically by the software (GeoDAS)
- 4-pole analog active filter and FIR digital filter
- > 160 dB attenuation at output Nyquist
- Trigger on a desired date and time for a desired duration
- Multiple number of "trigger sets" can be defined. Each trigger source, method and the recorded channel can be freely defined. To avoid triggering due to transient signal peaks, a "minimum exceedance duration" can be defined for each trigger
- Multiple number of STA / LTA and level triggers can be configured
- **Multiple independent event detection algorithms working concurrently**
- Internal, external, and seismic network based trigger sources can be combined arithmetically and a trigger voting can be configured
- If desired, without the use of any user interface, all the settings can be configured by a simple file copied on the memory card.
- File retrieval and instrument configuration via FTP / SFTP
- Supports two different types of datastreams Seedlink (MiniSEED) or GSBUS (DAT)
- All instrument configurations can be done over the password-protected advanced Web-interface.
- Web-interface displays the device state of health, time synchronization, power supply, battery, memory, hardware options, firmware version as well as last battery replacement date and more.
- **Instruments can be displayed on Google Maps and their Web-interface can be accessed with a single click**



- It is possible to list and download the continuous records (ringbuffer), event records, device state of health (SOH), and log files via the Web-interface
- Event and ringbuffer files are saved in the international standard MiniSEED format on the memory card
- Extended MiniSEED format can be used to also store SOH and device configuration
- The instrument documentation is stored on the instrument, easily accessible via the Web-interface. There is no need to carry documentation.
- Although seldom, in case the instrument's operating system does not respond for a configurable duration, the instrument can automatically self-restart.
- Intelligent Adaptive Real-Time Clock providing the highest free running clock accuracy
- Time synchronization between instruments can be realised via wired or wireless LAN
- Optionally the time synchronization between instruments can as well be realised via a proprietary wired "Interconnection Network"
- Built-in and configurable NTP server which can be synchronized to GPS or other instruments.
- Flexible automatic event processing and creating automatic reports by GeoDAS
- Templates and Batch analysis functions (a series of multiple analyses) can be applied to the recorded files within the GeoDAS (For example: Lowpass Filter, Highpass Filter, Baseline correction, Integration, Differentiation, Vector Sum, Cumulative Absolute Velocity (CAV), Time-Domain Filtering, Effective Values, Dumping, Power Spectra, FFT Magnitude, Terzband Spectra, Spectra Response, JMA Intensity STA / LTA Ratio, Signal Characteristics)
- Multiple instruments can be requested to create a common recording at a desired date and time through GeoDAS
- Support for emails and SMS notifications and alerts
- Optionally the software can be customised according to user requirements
- <http://earthquake.usgs.gov/monitoring/netquakes/> uses the lower resolution version of the GMSplus.

