GeoWatch

March 2009, Issue 38

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GeoSIG Moved to New Location

Figure 1. North West Side of the New GeoSIG Location

After more than one year of planning and implementation, GeoSIG Ltd. concentrated its facilities and major task forces in a brand new building in Othmarsingen. Bringing the head office from Glattbrugg and the production department from Cugy was a challenging task for the company having been completed successfully.

As per January 2009 we are now officially located in Othmarsingen. Therefore, our new address is:

GeoSIG Ltd.
Ahornweg 5A
CH-5504 Othmarsingen
Switzerland

Due to its many windows, the new building does not only provide a naturally lit working environment, but also a good working climate. The offices are all very well equipped and the new infrastructure was implemented with future expansion in mind.

Thanks to the amalgamation of the administration and the production we are now able to respond to customer inquiries, orders as well as any factory training or inspections in a well organised, time efficient and productive manner.

Note that all other contact information remains the same.

New Product: SSW-43 Seismic Switch

SSW-43 is an advanced technology seismic switch including a tri-axial MEMS accelerometer and a powerful 16 bit 80 MHz industrial CPU. The vibration signal acquired through the MEMS accelerometer is sampled with a 100 Hz sampling rate. At the CPU this vibration signal is treated with a digital low pass filter to minimize non-earthquake signal influences which occur above 20 Hz.

Figure 1. SSW-43 Seismic Switch in different form factors

One of the advanced features of SSW-43 is the implemented earthquake detection algorithm. SSW-43 adopts STA/LTA with a slope restraining algorithm to detect earthquake. This algorithm is very useful to eliminate none earthquake vibrations. In contrary to traditional earthquake detection algorithms, it is newly developed numerical algorithms make use of real time vector calculations and are therefore faster than ever. With automatic zero drifting compensation and a high capacity FIFO buffer, SSW-43 realizes stable and high speed STA/LTA calculations. Therefore, SSW-43 can achieve highly reliable earthquake detection.

SSW-43 is not only a seismic switch but also an earthquake intensity indicator. It can display in real time the maximum intensity according to CWB (Central Weather Bureau, Taiwan) earthquake intensity standard, the maximum vector, tri-axial acceleration and instant tri-axial acceleration…etc. In order to protect crucial facilities the user can preset thresholds of acceleration for 2 digital outputs individually.

The open connectivity of SSW-43 offers Modbus RTU / TCP protocol so it can easily be connected to a PC, PLC and HMI (Human Machine Interface). Up to three hosts can simultaneously be connected. It is therefore very easy to connect to broadcast or disaster prevention systems. It also provides active connection to server ability which is useful to deploy at an environment with no real IP. With NTP (Network Time Protocol) capability the SSW-43 internal time is kept within 1 second accuracy.

Max Dietiker, Creator of the Basis for the AC-23 Accelerometer Passed Away

Max Dietiker, who is the creator of the AC-3 accelerometer, has passed away. We would like to extend our deepest condolences to his family.

At the beginning of 1990's, Max Dietiker, within the Swiss Seismological Survey, developed the AC-3 (standing for Acceleration Sensor type 3). This was in relation with the Swiss Strong Motion Network Project (1st SSMNet). His unique idea was to use geophones (velocity transducers), and to overdamp them and obtain a sensor exhibiting a linear acceleration behaviour in the range of 0.1 – 50 Hz.

AC-3 has been the basis for our well known AC-23 Accelerometer.

Ground Breaking New Product GMS Successfully Passes EMC Testing

Our new line of instruments, GMS (GeoSIG Measuring System) and its peripheral equipment received the EMC (Electromagnetic Compatibility) certificate after a comprehensive testing phase in the first quarter of 2009.

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Swiss Accreditation Service SAS
Registration number 034
Notified Body number 1932

STS 034

TEST CERTIFICATE
TEST-ZERTIFIKAT

Product : GeoSIG Measuring System (GMS)
Produkt

Trade mark : GeoSIG Ltd.
Handelsmarke

Type : GMS
Typ

Manufacturer : GeoSIG Ltd.
Hersteller Europa Business Center
Ahornweg 5A, CH-5504 Othmarsingen / Switzerland

Test results : Ref. No.: EMCKP1325.1A
Testresultate

A sample of this product was tested and found to be in conformity with the following harmonized standards:
Ein Exemplar dieses Produktes wurde getestet und die Übereinstimmung mit den folgenden harmonisierten Normen festgestellt:
EN 61000-6-4: 2007
IEC 61000-6-4: 2006
EN 61000-6-2: 2005
IEC 61000-6-2: 2005

Zurich, 18. February 2009

EMC-TESTCENTER ZÜRICH AG

Max Hunziker
General Manager Technics

Certificate No.: EMCK1325.1A Page 1 of 1

Figure 1. EMC Certificate for GMS

The goal of EMC testing is verifying and rating the effects of unintentional generation, propagation and reception of electromagnetic energy with reference to unwanted effects (Electromagnetic interference, or EMI) such energy may induce.

The whole testing procedure consists of conducted and radiated emission measurement as well as of conducted and radiated immunity testing.

The goal of emission testing is verifying the perturbation generated by the equipment under test (EUT).

On the other hand, the goal of immunity testing is determining the equipment's resistance to external perturbations such as Wireless and Radio Frequency (RF) Transmissions or Electrostatic Discharge (ESD). EUT is then exposed to a special high-powered source of RF energy (signal) using a radiating antenna to direct the energy.

Both, radiated emission measurement and immunity testing are realized inside a radio-frequency anechoic chamber as shown in Figure 2.

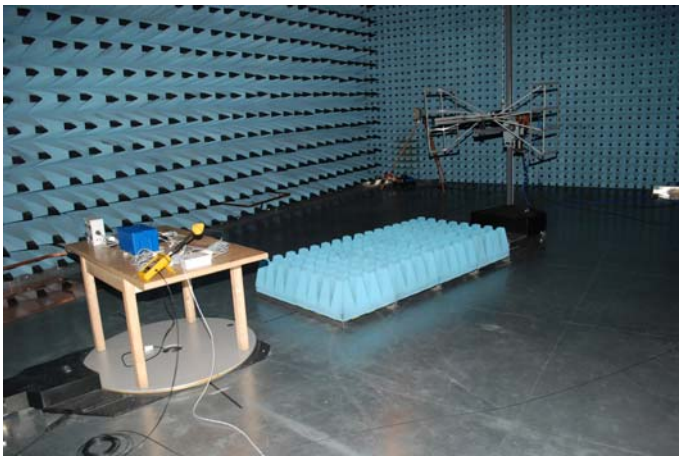

Figure 2. Test setup for radiated immunity testing of the GMS.

The compliance of the instruments with EN 61000-6-4:2001 (European Emission Standard for Industrial Environment) and EN 61000-6-2:2001 (European Immunity Standard for Industrial Environment) was examined by the EMC-Testcenter Zurich AG, a centre being accredited and registered by the Swiss Accreditation Service.

A standard GMS device equipped with GPS antenna, Ethernet connection, WIFI connection, Analog Modem connection and Alarm Output cable was used for both of the testing procedures.

Florian Magnin; Head of Production

Mr. Florian Magnin started at GeoSIG in February 2005. Initially appointed as a member of the production team he proved to being very reliable and subsequently developed into a key staff member.

He was promoted into his new position, "Head of Production", in June 2007 and built up a good working relationship with his team since.

As a consequence, all issues can be addressed to quickly now and jobs are accomplished on time. With his guidance and dedication, our production department further improved its organisational structure and increased its capacity based on the previously successful operation. We believe that Florian will continue achieving successes in his position.

23 Dams Monitored with GeoSIG Equipment in Korea

In cooperation with our agent in Korea, EJtech, GeoSIG had supplied GNC-CR24 systems for 11 dams in Korea earlier (for detailed information please refer to GeoWatch 32). Our customer, K-Water, is implementing national water resources management policies regarding multi purpose dams, water supply dams and regional water supply systems in Korea since 1967.

As a consequence of the successful execution of the above mentioned project, 12 additional systems could be delivered; now based on the state-of-the-art CR-5P Seismic, Earthquake and Structural Monitoring System. CR-5P is a highly versatile piece of hardware consisting of different modules.

With its embedded computer technology and modular structure, it can handle several hundred channels at the same time and is accessible from anywhere around the world via Internet depending on its configuration. The outstanding features of the CR-5P include the 24-bit digitiser continuously recording on high capacity hard disk, data streaming to Internet, safe reboot hang-up watchdog, "tree" type Ethernet network implementation as well as enhanced on-site data analysis and event notification features.

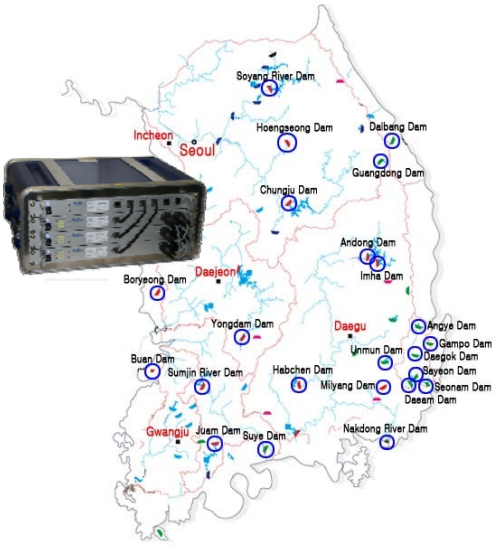

Figure 1. Dams Instrumented with GeoSIG Equipment

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