

Industry news and developments | GPS | Galileo | GLONASS

» SURVEY/GIS

Septentrio Announces Tiny, Low Power RTK Receiver

Septentrio has announced the AsteRx-m, a very low power GPS/GLONASS dual-frequency RTK receiver which is smaller than a credit card. The new board is aimed specifically at integration in hand-held devices, mobile computing platforms, and other solutions requiring high accuracy combined with low power in applications where space is at a premium.

Mobile computing has made spectacular inroads into the market in the last few years, and has now become a ubiquitous feature of modern electronics, Septentrio said. Handheld devices and mobile computing platforms with L1-GPS for GIS applications have been around for some time. However, users are beginning to demand higher accuracy, functionality, and robustness in their mobile GNSS-enabled devices. To cater to these requirements, Septentrio is launching the AsteRx-m.

The AsteRx-m can offer full dual-frequency GPS-only RTK capability while consuming less than 500 mW and GPS/GLONASS RTK at less than 600 mW, Septentrio said. It also covers the functionality range from GPS-L1 only to full GPS-GLONASS L1-L2, providing the same performance, robustness and availability as “full-size” state-of-the-art dual-frequency RTK receivers, the company said.

The AsteRx-m combines power-saving technology with Septentrio’s GReCo3 GNSS ASIC and GNSS+ suite of tracking and positioning firmware. It makes high-precision RTK positioning available in a very compact and low-power package for handheld devices, unmanned vehicles, and other power-sensitive high-accuracy applications.

“The AsteRx-m builds on the field-proven quality and performance of the AsteRx2 platform with a special focus



on low power and small size, targeted at handheld and battery-operated applications,” said Peter Grogard, managing director of Septentrio. “Providing GPS and GLONASS L1 and L2 in a form factor previously limited to L1-only or GPS-only processing, at a power consumption that is half that of comparable platforms, it effectively delivers twice the might for half the power.”

Septentrio will start shipping AsteRx-m in the third quarter of 2011.

» CONSUMER/GLONASS

Tablet PC with GLONASS Launched

Russian 3G operator Skylink has introduced what it calls the world's first tablet PC with GLONASS and GPS.

The Skylink Xpad works on Android 2.2 operating system. It has a seven-inch display, a SIM card slot, an 800-MHz processor, 512-MB of RAM, and a 3.2 megapixel camera. A battery life of 5-7 hours is expected.

Components have been developed

by the Mastone company, based in China, but the GLONASS application is supported by the MDM6600 chipset from Qualcomm. Utilizing data from both satellite positioning systems should increase accuracy in urban environments, Skylink says. The computers will be manufactured in China.

The GLONASS tablet is expected to



hit store shelves in the fourth quarter of 2011, with a retail price of 14,000 rubles (about \$500 US).

» PROFESSIONAL OEM

Rakon Named Kiwi Hi-Tech Company of the Decade

Rakon, an Auckland-based company specializing in timing and frequency components, has been named the New Zealand Trade and Enterprise Hi-Tech Company of the Decade (2000-2010). The company was also named the 2011 PwC Hi-Tech Company of the Year, an honor also bestowed at the New Zealand Hi-Tech Awards May 6.

The Hi-Tech Awards recognize excellence across New Zealand's software, electronics, biotechnology, telecommunications, and creative technology industries.

The international judging panel was impressed by all five contenders for the Company of the Decade Award, commenting that, "collectively the companies give great weight to the argument that geography is not destiny — you can build a great global business no matter where you start from." The judges described Rakon as "gutsy and innovative, with an excellent team and spectacular growth," declaring that "Rakon is a company that is truly international in appeal."

Rakon specializes in production

of high-performance quartz crystal components used for timing reference and frequency control. Rakon is the first company in the award's 17-year history to twice win the Company of the Year award, and the first company to be recognized as a leading company in the industry over the last 10 years. "It means a lot to us to receive recognition for all the hard work and success we've had over the last decade," said Brent Robinson, Rakon CEO. "We were up against some fantastic companies and it was quite humbling to win."

» SURVEYING

GPS Study of Chile's Megaquake Shifts Epicenter 40 Kilometers

Using data from more than 20 GPS stations, researchers in France relocated the epicenter of the 8.8-magnitude earthquake that struck off the coast of southern Chile on February 27, 2010, by 40 kilometers (25 miles).

In a study published online by *Science* magazine, the researchers conclude that the earth ruptured at about three kilometers per second.

"We analyzed cGPS (continuous GPS) and survey GPS data from before, during, and after the Maule event to determine the deformation of the Earth's surface close to the earthquake

rupture," wrote Christophe Vign of the Laboratoire de Geologie de l'ENS in Paris, who is lead author of the study. "We use data from Global Positioning System networks in Central Chile to infer the static deformation and the kinematics of the 2010 megawatt 8.8 Maule mega-thrust earthquake. From elastic modeling, we find a total rupture length of ~500 km where slip (up to 15 m) concentrated on two main asperities situated on both sides of the epicenter. We find that rupture reached shallow depths, probably extending up to the trench.

"The low frequency hypocenter is relocated 40 km southwest of initial estimates," the authors conclude. "This epicenter is different from those reported by seismological services. It is located 15 km south of the epicenter by the Servicio Sismologico Nacional (SSN) of the University of Chile and is almost 40 km southwest of the epicenter reported by NEIC (the USGS National Earthquake Information Center)."

The scientists also found that vertical displacements reached 1.8 meters of uplift at the tip of the Arauco peninsula, the land point closest to the trench.

» CONSUMER OEM

Garmin Launches Montana Rugged Handheld

Garmin International Inc. has announced the Montana handheld GPS device, what it calls its most advanced handheld, featuring a ruggedized



design with multiple mounting and battery options, dual-orientation and screen layout options, and support for a wide range of Garmin cartography.

The Montana has a barometric altimeter for elevation profiling and ability to profile the route ahead using included worldwide elevation model. The included 3-axis compass gives it a heading while standing still or not held level. Montana's touchscreen is four inches and the photos taken by its five-megapixel autofocus camera are displayed in sunlight-readable brilliant color, Garmin said.

"Montana was designed with the 'get dirty, go hard, then go home crowd' in mind, who are always after adventure," said Dan Bartel, Garmin's vice president of worldwide sales. "From navigating waterways in your boat and traversing the back country in your ATV, to hiking the Austrian Alps and even receiving spoken turn-by-turn directions on the

way to the grocery store, Montana has the versatility and mapping compatibility to do what you need it to."

Montana is fully waterproof and capable of withstanding mud and grit, even when connected to its optional powered mount, Garmin said. The Montana can be used with the power mount capability and City Navigator for spoken, turn-by-turn driving directions, or with a mount for a motorcycle or ATV. On foot, headphones can be plugged into Montana's 3.5-millimeter audio jack to hear the spoken prompts.

Garmin offers detailed topographic, marine, and road maps. Montana also supports BirdsEye Satellite Imagery (subscription required) that lets users download satellite images to their device and integrate them with their maps. Montana is compatible with Custom Maps, free software that transforms paper and electronic maps into downloadable maps.

» EVENTS

Navigation Strategies Europe 2011

June 15–16, Berlin, Germany

www.thewherebusiness.com/navigationstrategieseurope/

Two days of focused analysis and debate on current topics and challenges, and opportunities to meet market leaders.

JSDE/ION Joint Navigation Conference 2011

June 28–June 30, Colorado Springs, Colorado; www.ion.org

The largest U.S. military navigation conference. Attendance at for official use only (FOUO) sessions restricted to U.S. citizens. Classified sessions June 30 have 4-Eyes access for citizens of the U.S., Australia, Canada and the UK. All participants must establish a need to know and be approved by the Joint Navigation Warfare Center security office.

IAG General Assembly at the IUGG 2011

June 28–July 7, 2011, Melbourne, Australia; www.iag-aig.org

International Association of Geodesy assembly held as part of the major IUGG2011 international conference, Earth on the Edge: Science for a Sustainable Planet, a multi-disciplinary conference presented by the eight scientific associations of the International Union of Geodesy and Geophysics.

Esri International User Conference

July 11–15, San Diego, California

www.esri.com/events/user-conference/

The Esri International User Conference offers to about 13,000 attendees as many as 275 technical sessions and a large exhibit hall for exploring the power of geospatial technology. Pre-conference seminars and a GIS Managers Open Summit are planned.

ION GNSS 2011

September 20–23

Portland, Oregon

www.ion.org

The Institute of Navigation's GNSS 2011 conference will take place at the Oregon Convention Center. Registration information is available online.



More events online: www.gpsworld.com/events

» PRODUCT REVIEW

Great Positive Strokes from Nike/TomTom Watch

By David Loveall

My first impression of the new Nike+ SportWatch (with GPS powered by TomTom) was, "How is a brick that size not going to get in the way of this 50-year-old runner who still thinks he's all that and a bag of chips?"

Sure, it's larger than a standard running watch, but it needs to be. Not only does it need to pack in all those nifty features, it makes it easy to read while bouncing down the running trail. It also turned out to be one of the nicest fans I ever met.

It charges through one's laptop, and the program has all kinds of logging and organizational training aids for the runner who is A.D.D. about their training. However, at this stage of my game, I'm all about distance, time, and fending off aging so I can still have something to brag about. This gizmo even helped me do that.

I took it out of the box, put the chip in my Pegasus trainers, pressed two buttons, took a few steps, and was on my way, negotiating routes that I had been running for years. The first mile clicked off really fast, then the second. It's almost like the Nike TomTom silently coached me to push a little harder. What I also instantly discovered is that my distances

have been grossly underestimated. Thus my times always seemed slower than I thought. Global Positioning Systems from space don't cheat. They are exact and yet this watch was also encouragingly friendly with its accuracy. At the end of what I thought all these years was just over seven miles, the watch congratulated me on a "record setting" pace for 9.14 miles. A few days later, I ran hills. Accepting the times would be a bit slower, the display at the end treated me to another accolade: "And the crowd went wild!" Then it systematically ran through the fastest mile, pace, total time, and estimated calories burned.

This gadget not only helps you run better because of all the information it puts out and organizes, it also gives you the GPS all of us runners need — Great Positive Strokes at the end of your efforts. And I'm definitely a fan of that.

DAVID LOVEALL is a Eugene, Oregon-based photographer and 2009 Boston marathoner.

