GlobalTop Quarterly Technology Newsletter

2010 Winter Issue

# New Product and Firmware Set Target on Higher Efficiency

During the bottom half of 2010, GlobalTop has successfully launched brand new products and software customization services which aims to further improve power consumption and help increase processing efficiency.

Gms-u1LP is a true low-power successor to the popular GlobalTop PA6 product lineup, featuring similar size and familiar pin layout. It is an all-in-one GPS module containing pre-tuned smart antenna. Under tracking state, it only uses a minuscule 24mA of power, a whopping 54% lower than the PA6 family. In addition, it comes with additional I/O pins for 1PPS and RTCM support, plus the ability to connect to an external antenna.

Gms-u1LP: the newest GPS module from GlobalTop uses only 24mA when

On the other hand is GlobalTop's new custom firmware service called binary mode. Like the name implies, GlobalTop creates a custom output in binary format with selected NMEA items based on customer's need. The binary mode increases processing efficiency by relinquishing the need for additional parsing at the micro-controller end.

"At GlobalTop, we will continue to satisfy the continuing trend of increasing power efficiency for key components like ours, and we carry forward special hard to find features for important niche market that appease professional hobbyists and alike" said Nelson, VP of GlobalTop.

**Special points of interest:**

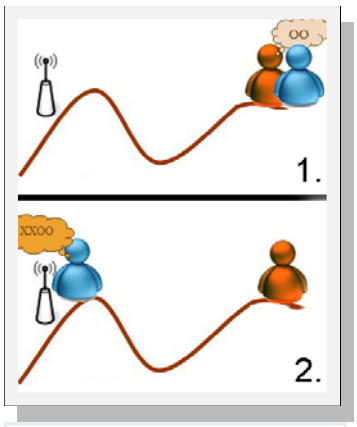
- GlobalTop website has received its first facelift! It is now easier to get the latest news and update on our products and downloads. Check it out at: www.gtop-tech.com
- Visit facebook and search for GlobalTop to see more pictures on 2010 International Symposium on GPS/GNSS
- Gms-u1LP is now officially ready for sample of mass order, contact our sales now to try out the new low power all-in-one GPS module right now!

# YuShan Project Saves Lives Lost in Mountain Climbing Accidents

GlobalTop is announcing its support for the first ever tracking system designed for mountain climbers developed by National Taiwan University. YuShan Mountain, where the YuShan project is named after, is the tallest peak in Taiwan, towering 3,952 meters above sea level, and is also the chosen testing ground for the first tracking system of its kind. The system consists of a black box that records the route of the hikers, and a unique way of transferring the data back to the control center using Zigbee WSN.

"Black Box" Tracking Devices for Mountain Climbers: Includes Zigbee transmitters and GlobalTop GPS modules with SD card storage

Zigbee was selected for this project based on low power consumption and high reliability of this protocol. 3G or other cellular signals are particularly hard to acquire in the mountainous ranges due to scarce number of communication tower. Using the unique ad-hoc nature of Zigbee, each black box carried by individual hikers can pass and receive routes recorded to other hikers he/she met on the hiking route. Communication stations are set along major rest stops to allow the collected data to be sent back to central command for further processing.




How YuShan Project Works:

1. Blue hiker encounters orange hiker on the route, their tracking devices will take 1 to 2 seconds to automatically transmit recorded routes to each other.
2. When blue hiker travels to rest stop, he'll upload both his and orange hiker's routes to the command center

Solar Powered Communication Stations are already set up along the hiking route. The purple line indicates the actual route recorded in testing.

On the other hand, the GlobalTop GPS was chosen based on the special 1PPS output that helps the Zigbee transmission to achieve 100% success rate.

In case of accidents or missing hikers, the rescuer can immediately confirm the last known location sighted and set up rescue perimeters as soon as possible. This significantly improves rescue efficiency during the golden hours of rescue and greatly increases the chance of survival.

"This is excellent news beyond believe!" proclaims one blogger who knows about YuShan project through media broadcast here in Taiwan. "Hopefully the National Mountain Rescue Association can setup stations across mountain ranges in Taiwan as soon as possible, and assists the project organizers in mass producing this device for the benefit of all the mountain climbing lovers in Taiwan!"

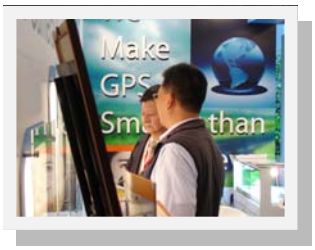
In addition to the communication station and the device, family and friends of hikers can also trace their routes real time through online portal. Web site has already been setup and simple application made for Google Android and Apple iPhone OS system are both ready as well.

YuShan project is currently in early testing phase and is expected to hit the national park nationwide in 2 years. Please see "http://yushannet.org/index_e.php" for more details.


GlobalTop Booth Setup @ 2010 GPS Symposium

# International Symposium on GPS/GNSS 2010 a Success for GlobalTop and Taiwan

This year's international symposium on GPS/GNSS marks the first time Taiwan has hosted a worldwide GPS/GNSS event on such a magnitude and scale. GlobalTop is one of the biggest contributors for sponsoring this event, and is also the only GPS module professional to represent for this segment of industry.



Dr. Chiang-Liang Tseng with VP of GlobalTop, Nelson Yang.

For this special occasion, GlobalTop has chosen to shown a full range of GPS applications from its partners worldwide to demonstrate the diversity of devices using MediaTek GPS technologies. These vary from consumer devices such as geo-tagger for professional DSLR, speed radar detectors, to industrial application like AVL/Fleet management system, lap-timer for racecar, WiFi + GPS system for ITS, and as well as GPS receiver for hoppy RC aircrafts.

In the midst of many show visitors, GlobalTop is proud to have many dignitaries visiting its booth, and perhaps none more so than Prof. Dr.-Ing.Günter W. Hein, the current ESA head of Galileo Operations and Evolutions. During his time at the symposium, Dr. Hein gave compelling information on the future of Galileo projects and the reality of having a multi-system GNSS future (such as Galileo + GPS, or Galileo + Beido) which has already made considerable progress.

Prof. Dr.Ing Gunter W. Hein with VP of GlobalTop, Nelson Yang.

"GlobalTop is on the forefront in sponsoring important GPS academic research projects and have always showed great care in the academic community," said Nelson Yang, VP of GlobalTop. "We have successfully accomplished this year in providing the attending researchers, students, and future prospects a glimpse in the current consumer level of GPS accuracy applications. We will continue to provide the best GPS modules through quality hardware and customizable firmware".

A hustle and bustle scene at GlobalTop Booth, more than 200 top GNSS professionals from Asian Pacific region attended this year's international Symposium.

Your need is our mission!

# Special Firmware Features Seeking to Improve GPS Usage in Niche and Professional Markets

Two New Firmware Customization Services are now available by special request: High Altitude Unlimiter and Timing Mode.

High Altitude Unlimiter is a new firmware feature that targets hobbyist high altitude and weather balloons. It allows the GPS to continue outputting positioning information past the previous limit of 60,000ft (~18,000m). This kind of restriction removal is previously only available on high priced models and is an important milestone that marks GlobalTop's continual dedication in this sector of market.

Timing Mode on the other hand, is designed to make the job of controlling the 1 PPS signal easier for synchronization applications such as communication devices, broadcast towers and power transformer stations. With the help of this special mode, 1 PPS signal generated from GPS module are extremely accurate as the rising edge of 1PPS signal for GlobalTop module is synchronized to the start of each GPS seconds with auto-adjustment for leap seconds. In addition, packet command can now be used to select 1PPS output mode, as well as setting the output duration (pulse width).

Tainan Headquarter:
3rd F, No.7 Nan-ke 3rd Road,
Science Based Industrial Park,
Tainan 741, Taiwan

Phone: +886-6-6007799
Fax: +886-6-5053381
E-mail: sales@gtop-tech.com
Website: www.gtop-tech.com