



# Ashtech DGPS Inside.

## The Differential GPS System of Choice—Around the World.

**The preferred systems for safe, offshore navigation—Just ask the U.S. or Canadian Coast Guard.**

That's right. Ashtech® GPS is the navigation safety standard chosen by both the U.S. and Canadian Coast Guard and other leaders from around the globe. Our Z-12R™ Reference Stations can be found all over the entire coastline of North America such as Pigeon Point above—and other coasts around the world—providing mariners with safe, reliable Differential GPS.



1170 Kifer Road / Sunnyvale, CA 94086  
Tel: 408-524-1400 / Fax: 408-524-1500  
**Washington** Tel: 703-476-2212 / Fax: 703-476-2214  
**England** Tel: 44 1993 883 533 / Fax: 44 1993 883 977  
**Moscow** Tel: 7-502-256-5400 / Fax: 7-502-256-5360  
**Web** <http://www.ashtech.com>

Ashtech is a registered trademark and Z-12 is a trademark of Ashtech Inc.

We offer a complete solution for coastal DGPS beacon systems, including our 12-channel Z-12R Reference Station, a 12-channel Integrity Monitor (IM) and Software for integrating the whole system and controlling it.

The result is accurate differential corrections for mariners and aviators, as well as land applications such as GIS or agriculture. Accuracy for users can be as good as sub-meter depending on the user's GPS receiver.

We also supply reference stations for geodetic, scientific and earth monitoring applications around the world. For more information about our turnkey reference stations, call 1-800-922-2401.

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Circle 5

## PTTI '96: Popular Time for GPS

Likening the GPS satellites to clocks in space, Scott Pace of the RAND Corporation's Critical Technologies Institute (CTI) underlined the linchpin role timing plays in the Global Positioning System, during a speech at the Precise Time and Time Interval (PTTI) conference, held December 3-5, 1996, in Reston, Virginia.

Pace presented an overview of the 1996 CTI report entitled *The Global Positioning System — Assessing National Policies*, which played a key role in developing the national GPS policy announced last year. The report's recommendations reflect the phenomenal growth of civilian applications for GPS in the United States and abroad and call for clarification of GPS management and acquisition decisions, guidance for international agreements regarding concerns about GPS and other satellite navigation systems, and continuance of free civil signals to promote adoption of GPS as a global standard for position location, navigation, and timing.

The presentation of a general policy paper at this traditionally esoteric conference was

just one indication of the continuing inroads precise timing is making into more-commercial applications and markets. Another was the new products session, a first for the annual event, during which representatives from the 15 exhibitors described their latest timing products to the international audience of PTTI researchers, developers, and practitioners.

The keynote speech by Giovanni Busca of the Observatoire Cantonal de Neuchâtel, Switzerland, describing the effect of space atomic clocks on navigation, communications, and the sciences, also highlighted this commercial trend. Busca discussed how the growth of timing applications, particularly those related to GPS, have outpaced atomic clock development itself.

Conference organizers presented the Distinguished PTTI Service Award to Sigfrido Leschiutta of the Politecnico di Torino. The annual PTTI gathering is a small (about 200 attendees) but prestigious event sponsored by eight U.S. civilian and Department of Defense agencies. This 28th gathering was organized by outgoing chairwoman Sheila Faulkner of the U.S. Naval Observatory; the

chairman for next year's event will be Joseph White of the U.S. Naval Research Laboratory.

## Around the Industry . . .

**Wilcox Electric, Inc.** (Kansas City, Missouri) has filed for judicial review of the Federal Aviation Administration's (FAA's) October 9, 1996, denial of Wilcox's protest of FAA's decision to award a Wide Area Augmentation System contract to Hughes Aircraft. Wilcox filed the petition for review and a request for expedited consideration with the U.S. Eighth Circuit Court of Appeals.

**SiRF Technology, Inc.** (Sunnyvale, California) has announced the appointment of Jackson K.C. Hu as president and chief executive officer. Hu comes with 18 years' experience in the semiconductor industry. Most recently, he was senior vice-president and general manager at S3, Inc.

Bruce Alspach, vice-president and general manager of **Trimble Navigation's** aerospace business in Austin, Texas, has accepted a position as president and chief executive officer of Dow-UT Composite Products, Inc. ■

## The Perfect GPS Antenna Manufacturer

• Aviation

• Vehicular

• Airborne

• Military

• Marine

• Survey

• Hand-held

Field Proven Design

FAA Approved

**AeroAntenna Technology, Inc.**

20542 Plummer Street • Chatsworth, CA 91311

Tel: (818) 993-3842 • Fax: (818) 993-4525

## Recruitment

Hold a  
**Global  
Position**

## Product Marketing Manager Surveying Systems

**Ashtech** is the leader in precision solutions for global positioning. We manufacture and market GPS receiver systems and related subsystems for users worldwide. Our products are used in surveying, mapping, precision navigation, remote sensing, photogrammetry, GIS, agriculture, mining, vehicle tracking and safety. Position your career with one of the best!

You will interface with sales and customers to gather market requirements and help to define the next generation of GPS and GLONASS Surveying Systems with emphasis on receiver hardware, firmware features and systems accessories. You will also monitor product development processes, perform competitive analysis, and develop business justification.

Requires a Surveying Engineering, Electrical Engineering, or Civil Engineering degree, or equivalent. Five years' experience in a surveying/engineering service company or experience with a surveying equipment manufacturer is also required. GPS and/or conventional surveying instrumentation field experience essential. Product Marketing experience a plus.

We offer a competitive salary and benefits package including stock options. Send your resume to **Ashtech Inc., Job Code 329, 1170 Kifer Rd., Sunnyvale, CA 94086. Fax: 408-524-1638, or e-mail to: ann@ashtech.com** EOE

**Ashtech**

www.ashtech.com



# The Scoop on GPS Productivity?

## Ashtech. Positioning you for accurate mine automation.

**From surveying to drilling, our GPS systems give you the power to optimize your operations.**

When you've invested millions of dollars into your operation, you want to ensure every piece of equipment works as efficiently as possible. That's why so many mines have turned to Ashtech® GPS for fast, accurate mine surveying, and now precise machine guidance. We're the leader in precise global positioning solutions—and we can help make many operations in your operation more productive.



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Ashtech is a registered trademark and Mine Surveyor is a trademark of Ashtech Inc.

Using Ashtech GPS onboard drills or shovels, you can position drills and maintain shovel elevations with centimeter accuracy—*on the fly*—without surveying first. Without the requirement for grade control or drill hole surveys, your equipment can keep moving 24 hours a day—in any weather!

This also frees up surveyors for other projects, such as ongoing construction. We help out there too with our Mine Surveyor™, developed for fast RTK surveys using built-in mine functions, such as cut-and-fill. Ashtech GPS receivers are also compatible with computer dispatch systems for tracking vehicles and machinery.

For more information about Ashtech GPS solutions for mining, call 1-800-922-2401.

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