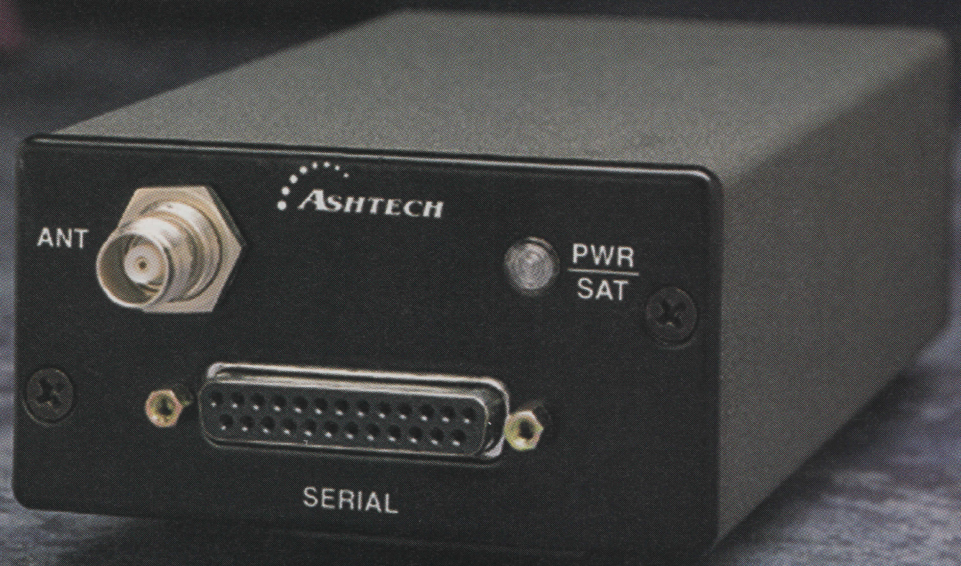
ARE YOU LOOKING FOR BETTER THAN ONE METER ACCURACY...



All the reasons you need real-time navigation capabilities will convince you to use the Ashtech Super C/A Sensor™

The Ashtech Super C/A Sensor GPS receiver is a powerful navigation system that offers Real-Time Differential capability and Super C/A Tracking™. There's a long list of features that outperform other receivers and some of them may surprise you.

It Provides Higher Accuracy

As a stand-alone unit, the Super C/A receiver is capable of 25 meters SEP . In Real-Time Differential mode, you can achieve <1 meter accuracy and optionally, using Ashtech's PNAV™ post-processing software, an accuracy of 1 cm is achievable.

It's Efficient

One independent measurement is determined per second. Data from all satellites in view are computed simultaneously. A 1 PPS timing pulse, accurate to 50 ns, can be advanced or delayed for different triggering applications. Real-time data outputs are standard to accommodate a variety of raw pseudorange, ephemeris and position data.

It's Flexible

The Super C/A uses different antenna configurations for unique applications. It supports a telemetry link such as a data radio or a maritime beacon system. Three RS-232 serial ports provide interfacing with external devices using the NMEA 0183 format. Optionally photogrammetry/event input marker information and carrier phase are available and a 4Mb memory board can be added for post-processing applications.

It's Economical

At half the price of comparable receivers, you can't afford not to use the Ashtech Super C/A Sensor. For more information, call us at 1-800-229-2400.

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Circle 8

GPS WORLD

Play Ball!

I never thought President Clinton should have gotten involved in trying to sort out the baseball strike. Despite being the "national pastime" and making for a great (if somewhat clichéd) photo opportunity the first day of the season, professional baseball really doesn't fall under the charter of executive action.

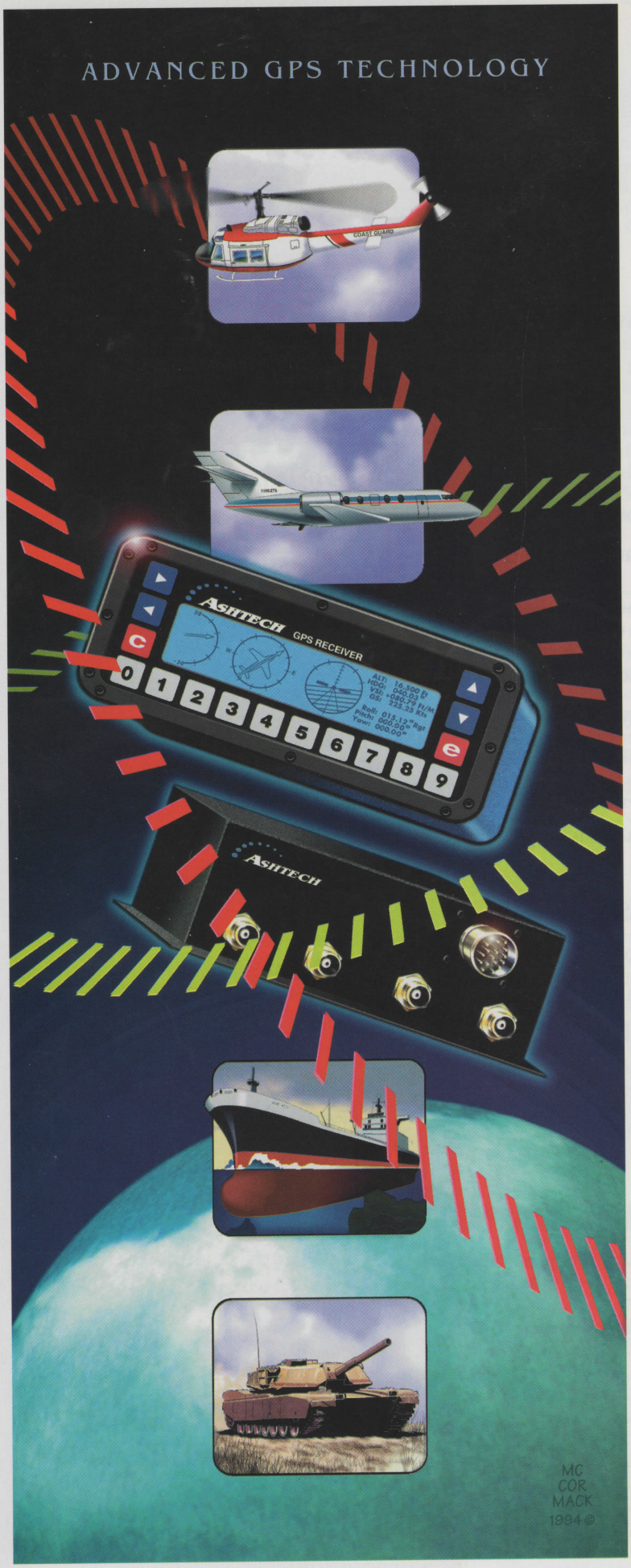
The Global Positioning System, on the other hand, does. GPS is a national asset. And, with GPS, the U.S. government owns the bats. It owns the balls. It's set up the league. The United States has issued a generous invitation to the world to play. The GPS games have begun long since. Now it's time to send in the refs.

If it does nothing else, the recent round of interagency struggles over FAA's Wide Area Augmentation System (WAAS) highlights the growing need for a clear, comprehensive, and authoritative national policy on GPS. And the back-and-forth between the Departments of Defense and Transportation over the issue of global, high-accuracy, real-time differential GPS corrections appears likely to push the question onto the agenda. Presumably, they will be joined by related issues, such as commercial service providers' concerns about the effect of any free government-provided DGPS on markets, technology development, and profits.

About the only formal documents of national policy on GPS are a 1983 pronouncement by President Reagan that GPS would be available free and in the open for global air navigation, and more recent statements to the International Civil Aviation Organization outlining the parameters and conditions of that offer. Of course, many well-documented policies exist at the departmental level, but therein lies the problem: the resulting plans and programs, worked out separately, can conflict with one another.

Mechanisms and processes already exist for sorting out conflicting perspectives, objectives, and responsibilities among civil and military agencies. Much as we are struck by the novelty, even uniqueness, of GPS, it is not the first dual-use technology to challenge the imagination and expertise of federal policy makers. The White House Office of Science and Technology Policy (OSTP) is a key player, and one that is well prepared and positioned for the task. In June, OSTP will receive a report from the Rand Corporation's Critical Technologies Institute covering GPS issues and options. But many other players may want to take part, including Congress, federal agencies and executive bodies, GPS manufacturers and service providers, and the user community. At this point, it's not so important who takes part. The issues and interests are pretty well known. The important thing is that a definitive statement of policy occurs at the appropriate level — the top.

Glen Gibbons



Ashtech 3DF™ Dynamic Platform Attitude & Positioning

Attitude (heading, pitch, roll and yaw angles), position, velocity and time in a simple to use compact instrument.

The Ashtech 3DF (Three-dimensional Direction Finding) system determines platform attitude, position and velocity using GPS satellites. Heading, pitch, roll and yaw angles are provided in real-time for both static or dynamic platforms. Real-time differential GPS is available to provide position accuracy of 1-3 meters.

The 24 independent channels, which are used for GPS satellite tracking, are configured as four 6-channel banks with each bank receiving L1 GPS signals from a separate antenna. Small antenna size and flexible antenna array geometry permit easy installation on a variety of land, sea or air platforms.

3DF displays platform attitude, position and velocity while storing these measurements internally at a 2Hz update rate; two high-speed RS-232 serial ports provide for simplified interface with other onboard systems.

Applications include INS integration, vehicle heading and attitude, photogrammetry and artillery pointing. The 3DF is an excellent real-time heading and attitude sensor for oceanographic and seismic exploration activities and for gyro calibration at sea.

Unlike INS, the Ashtech 3DF system is not affected by magnetic fields or Schuler effects. It operates anywhere in the world, including the polar regions, with an accuracy of about one milliradian or 0.057°. It can be used stand-alone or in an INS aiding role. In the latter, INS calibration and periodic gyro drift corrections can be performed continuously and automatically, dramatically reducing these labor-intensive tasks and effectively eliminating the associated platform down-time.

The Ashtech 3DF is available configured with graphic display, keypad and internal memory or in a sensor version (3DF ADU).

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