# Ashtech Real-Time Differential GPS

## A robust, turnkey system with dynamic accuracy to 1-3 meters.

Real-Time Differential GPS involves operating a GPS receiver (Base) at a known location, where it observes the range errors of each GPS satellite and broadcasts corrections directly to a mobile GPS receiver (Remote) by radio, phone or other communications link. The remote's software then makes an integrity assessment and computes an instantaneous position fix.

Ashtech Ranger™ or M-Series receivers equipped with the Real-Time Differential GPS option do not require an external computer or complicated setup procedures. With 12 independent channels tracking all satellites in view, one base station can service any number of remote units within the limits of the data link. (Any receiver may be designated either "base" or "remote" unit by a single front panel key entry.)

Remote receivers use the broadcast corrections to update their positions every half-second ...with a differential accuracy of 1-3 meters rms (PDOP≤4).

Differential corrections are output in standard RTCM SC-104 (Version 2.0) or standard Ashtech format.

The Ashtech Differential GPS systems are available on a turnkey basis with an integrated digital VHF/UHF radio communications link. Each Ashtech XII receiver is equipped with two RS232 ports for communications link as well as for data recording, position analysis and external system interface.

While Ashtech GPS receivers include operational status monitoring, they are also designed for automatic unattended operation in the Differential Mode. If a power outage occurs, the receiver will restart automatically.

## ASHTECH

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*Circle 4*

# DIMENSION

*When the green light is on...*

# DIMENSION...accurate to the dimensions of a dime

The 10-cent coin in your pocket is only 1.79 centimeters in diameter and just over 1 millimeter thick.

Ashtech's new compact GPS receiver brings this millimeter level accuracy to first order surveying ...automatically!
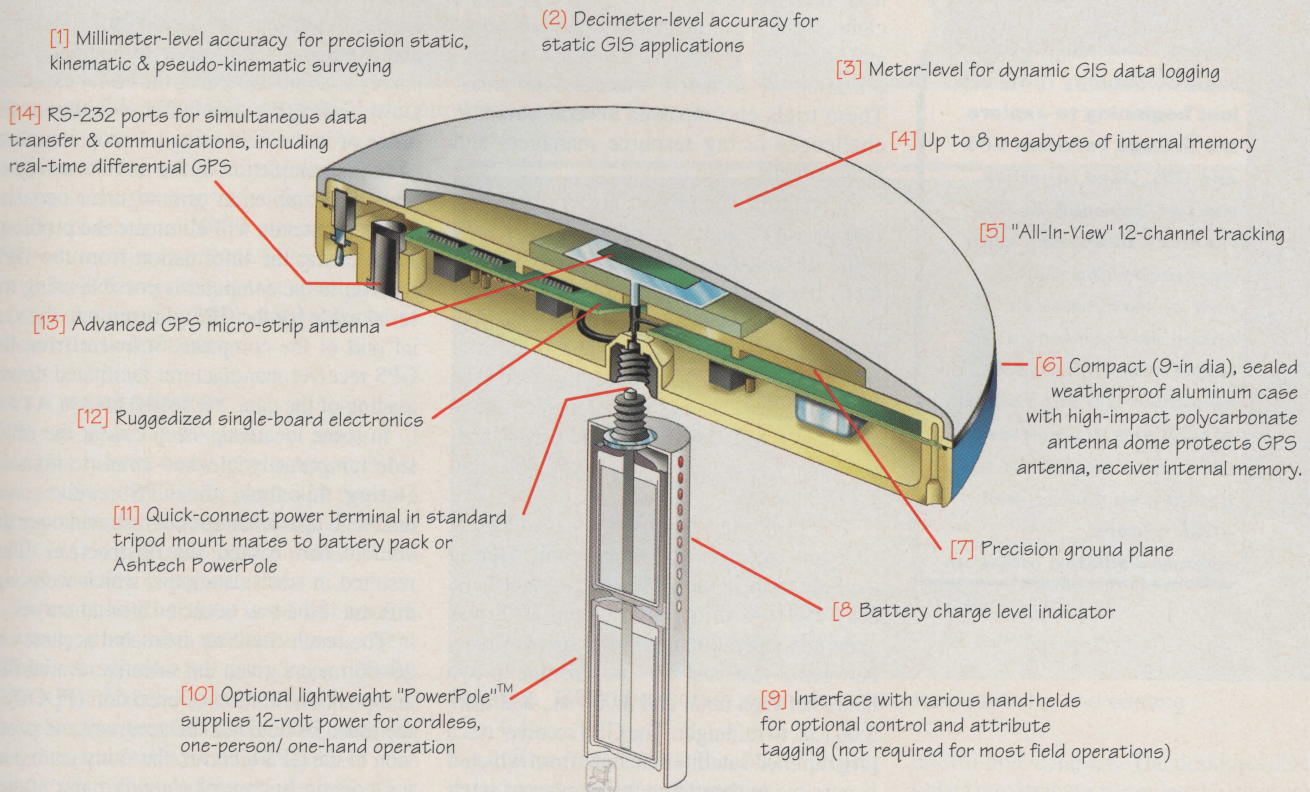
Ashtech's unique 12-channel "All-In-View" capability eliminates the need to coordinate satellite selection between sites. High precision carrier and code phase measurements assure accurate position results. Powerful post-processing software packages support a wide variety of surveying and GIS applications.
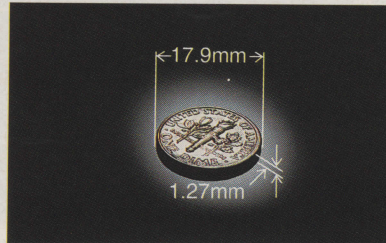
DIMENSION, the most advanced GPS receiver commercially available today, is also the easiest to use; simply turn the power ON to begin the survey; turn it OFF to end it. The green LED light indicates that all available satellites are being tracked and data recorded. In GIS configuration, DIMENSION is ideal for easy data logging. Output files readily integrate into existing data bases for fast, accurate map updates compatible with standard GIS formats.
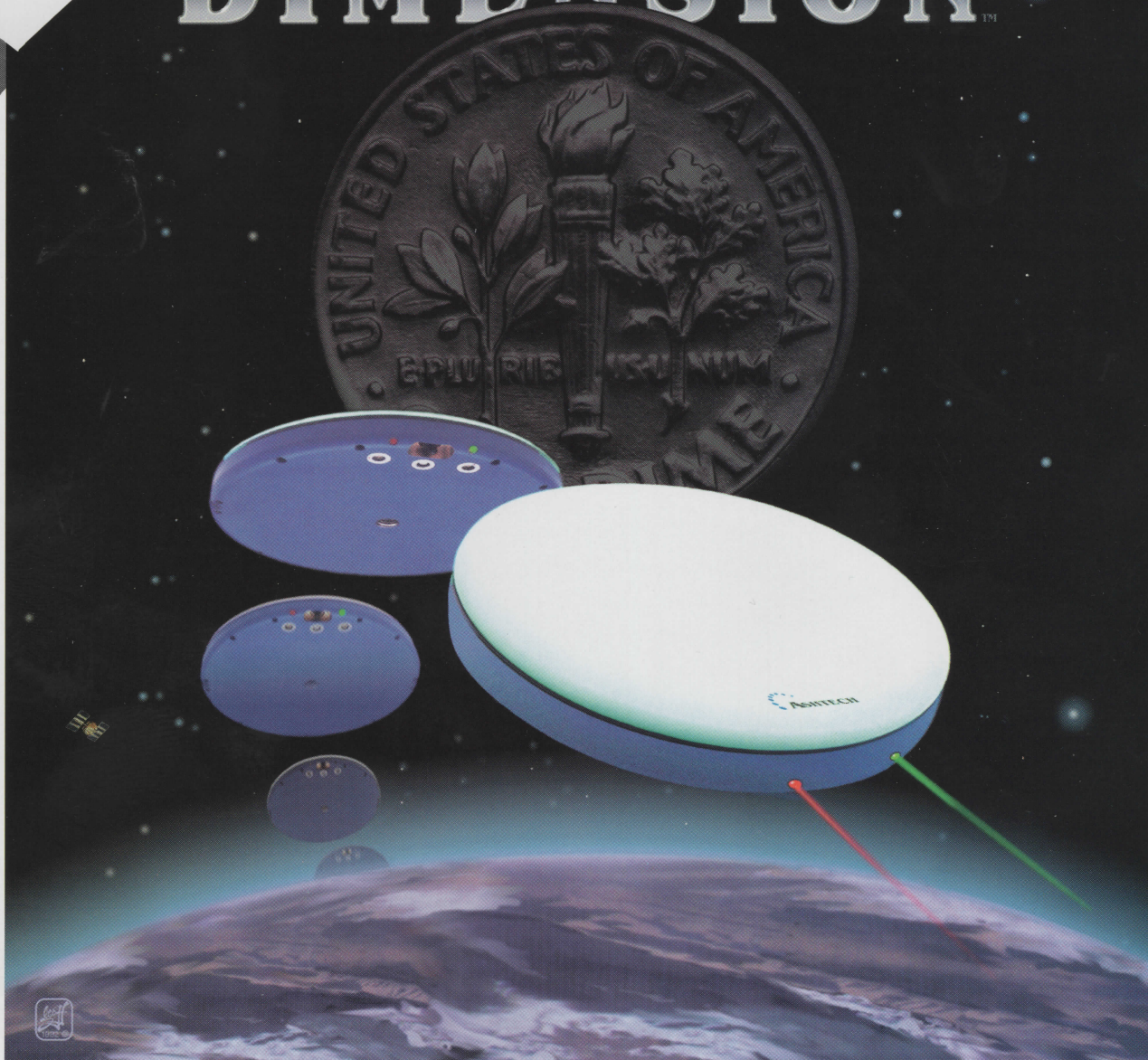
Call Ashtech for complete information about DIMENSION™ as well as Ranger™, M-XII, Dual P-Code and other Ashtech GPS receivers.

[1] Millimeter-level accuracy for precision static, kinematic & pseudo-kinematic surveying

[2] Decimeter-level accuracy for static GIS applications

[3] Meter-level for dynamic GIS data logging

[14] RS-232 ports for simultaneous data transfer & communications, including real-time differential GPS

[4] Up to 8 megabytes of internal memory

[5] "All-In-View" 12-channel tracking

[13] Advanced GPS micro-strip antenna

[6] Compact (9-in dia), sealed weatherproof aluminum case with high-impact polycarbonate antenna dome protects GPS antenna, receiver internal memory.

[12] Ruggedized single-board electronics

[11] Quick-connect power terminal in standard tripod mount mates to battery pack or Ashtech PowerPole

[7] Precision ground plane

[8] Battery charge level indicator

[10] Optional lightweight "PowerPole"™ supplies 12-volt power for cordless, one-person/ one-hand operation

[9] Interface with various hand-helds for optional control and attribute tagging (not required for most field operations)

*Circle 23*

**ASHTECH**