

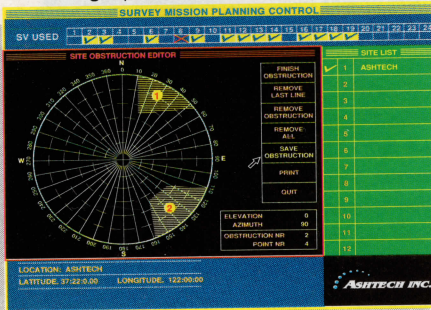
Ashtech XII GPS ... the world's most sophisticated GPS technology

Advanced Ashtech XII GPS receiver technology and new GPPS-2 post-processing software create the most comprehensive, most efficient, most accurate GPS survey system available today... automatic operation from field to finish:

- Mission Planning
- Data Acquisition
- Post-Processing
- Graphic Analysis

Built to withstand the rigors of harsh field environments, the weather-proof Ashtech XII GPS receivers are so compact that two systems, complete with antennas and accessories, fit into an ordinary briefcase.

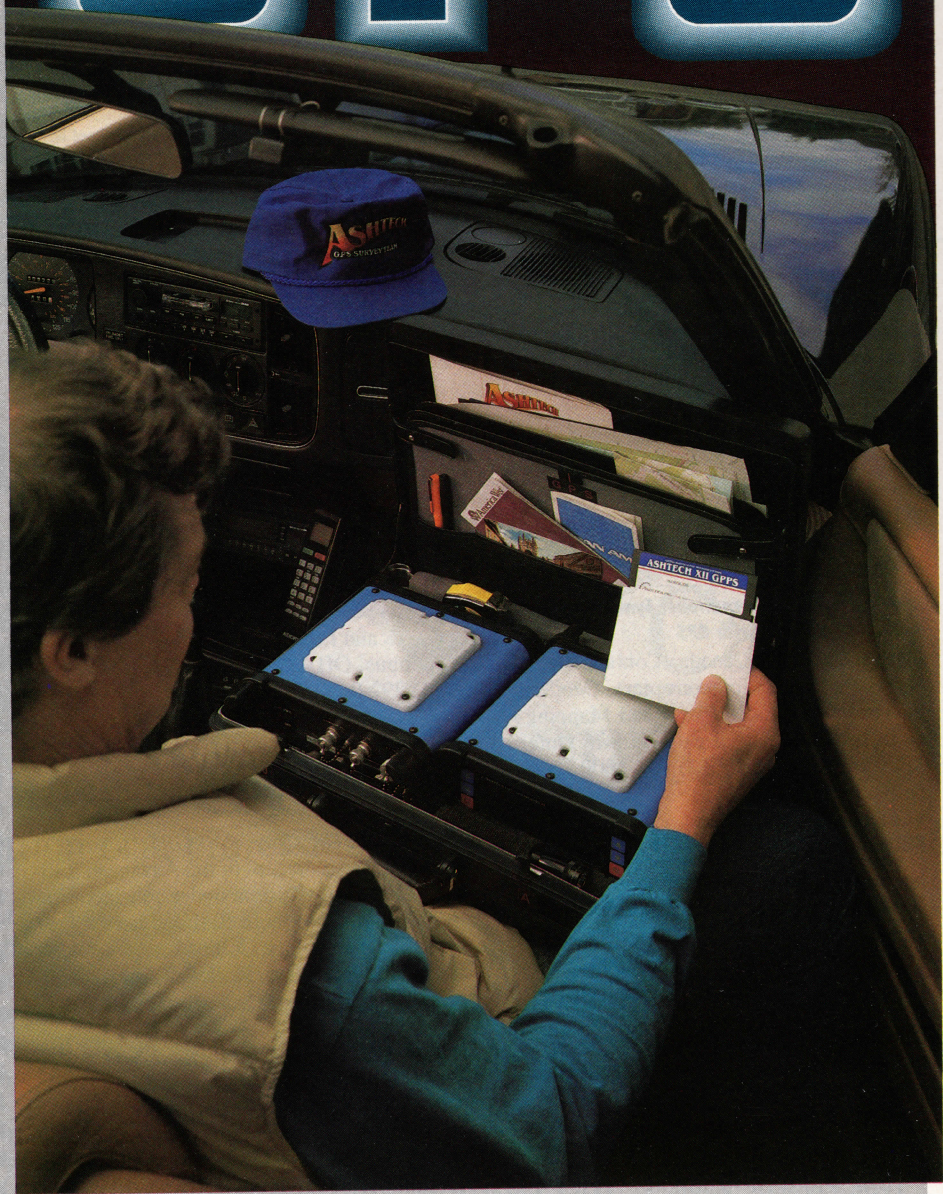
Menu-managed GPPS-2 software walks any seasoned or novice operator through all the steps of planning, data transfer, processing, network adjustment and report generation with easy-to-use mouse-driven graphics.



Survey mission planning is actually "fun"; the flexible software sets new standards in operational ease and access to comprehensive site data. For example, obstructions are easily drawn on the polar plot with a few clicks of the mouse. There is no need to enter elevation or azimuth numbers.

ASYTECH XII GPS RECEIVER

GPS



Ashtech XII Technology The Best GPS Investment

The Ashtech XII was the first to offer true "all-in-view" operation with 12 independent channels, automatic tracking and modular performance options. Any Ashtech receiver may be ordered for specific applications and later upgraded to full survey or navigation configurations.

Single-Receiver Position Tracking with "GPS Ranger"

NEW

The Ashtech "GPS Ranger" option permits a single operator to plot areas on land or water at speeds up to 1000 knots (receiver records and computes positions twice per second), for later map readout and analysis. Up to 100,000 positions can be recorded; no external data logger is required.

When used with a companion GPS base station receiver, the "ranger" can achieve meter-level accuracy using either "real-time differential" or "post-processed differential" GPS positioning options.

Real-Time Differential GPS

Ashtech XII receivers are equipped to provide real-time differential GPS without the need for external computer or software. Any receiver may be designated as either "base" or "remote" by simple front panel entry. Data connections between receivers can be made through any communications link, such as radio or cellular phone, using the receiver serial ports. In the differential mode, range corrections are computed by the base receiver as fast as once per second.

Complete Information Display

All Ashtech XII Receivers include an 8-line by 40-character LCD alphanumeric backlit front panel display. Site data (name, operator, session, receiver, codes, antenna height, weather etc.) can be added by using the keyboard at any time during the recording session.

Fast Data Recording Rates

Advanced computer technologies provide very fast recording rates. The receiver collects data from 12 satellites, computes positions and records data as fast as twice every second... a rate particularly useful in kinematic and photogrammetry applications. The recording interval can be set from one-half to 999 seconds.

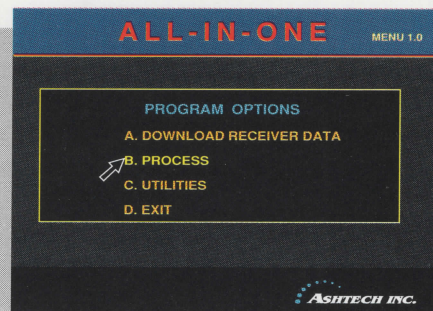
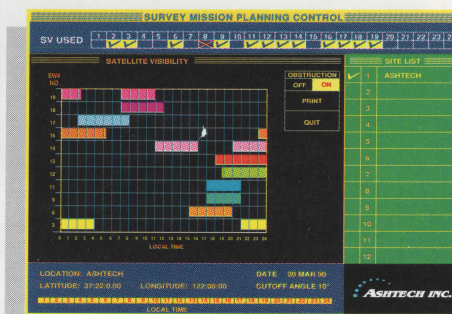
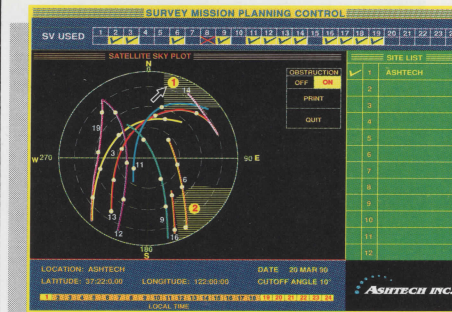
Internal memory can store more than 24 hours of 6-satellite data at a 20-second recording interval. With 10 satellites, the storage capacity is more than 14 hours.

Two RS232 ports are provided to transfer recorded data for post-processing (baud rates up to 115,200) as well as for other communications purposes.

Mouse-driven graphics add new dimensions to GPS survey planning and post processing. Satellite SkyPlot shows elevation and azimuth as well as site obstructions while the Visibility Chart identifies local rise and set times.

Sites can be selected from a world map display, pre-stored lists or by coordinates.

Ashtech ALL-IN-ONE menu design automatically integrates results into survey reports and network files.



Optional Dual Frequency Operation

An Ashtech XII GPS receiver can be equipped with 12 optional L2 channels for both static or kinematic operation. Dual frequency receivers offer increased accuracy over long lines as they can remove the effects of ionosphere delay and improve the results to approximately 1ppm, irrespective of solar conditions.

Optional Photogrammetry Camera Input

With the "camera input" option, accurate time and GPS position data are recorded automatically; post-processing determines the position of the camera at the time the picture was taken. By synchronizing photo position coordinates, this technique eliminates the need for separate ground control points in aerial photogrammetry applications.

The accurate 1pps timing signal, provided on the back panel, is a TTL level, synchronized to either GPS or UTC (GMT) with an accuracy of better than 0.1 microsecond.

Ashtech GPPS-2 Software

GPPS-2 expands both post-processing and analysis capabilities for all GPS surveys. The exclusive "All-In-One" menu design provides automated interface and simplified graphics at single command; the operator need only identify the type of survey performed... static, kinematic or pseudo-kinematic. The output is compatible with GIS.

Optional Graphic Survey Data Base

Using USGS data and US Census Bureau TIGER file data base information, an optional display can show survey points on a map beside local landmarks.

Ashtech XII GPS hardware and GPPS-2 software combine to provide the most sophisticated survey system available today; lightweight, weather-proof receivers built to withstand the rigors of field use, and advanced GPPS-2 software to extend the flexibility and reliability of any static, kinematic or pseudo-kinematic GPS survey.

Ashtech XII GPS

Ashtech is committed to GPS and continues to add new levels of accuracy, portability and operational simplicity to the art and science of the geodetic survey.

Two compact 12-channel Ashtech XII GPS receivers, each complete with antenna and accessories, fit into a standard briefcase.



Circle 22

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USSR / ASHTECH SIGN GPS / GLONASS AGREEMENT FOR DEVELOPMENT

Moscow, USSR—The Institute of Space Device Engineering (ISDE) of the Soviet Union has signed a Memorandum of Understanding with Ashtech Inc., the leading American GPS engineering and manufacturing firm, to jointly develop a combined GPS/GLONASS receiver following the guidelines and pertinent laws of the USSR and the USA.

ISDE is the engineering and R & D arm of Glavkosmos, the Soviet equivalent of NASA. GLONASS is the USSR's counterpart of the Global Positioning System and is expected to have twenty-four satellites in place within the next few years.

GPS SURVEY TRAINING

Sunnyvale, CA — A two-day GPS training program in static, kinematic and pseudo-kinematic field survey operations, as well as post-processing procedures and network adjustment, is open to surveyors without tuition. Ashtech's Sunnyvale, California classroom facility can accommodate up to 50 students. Reservations are required. Special arrangements can be made for larger organizations.



Ashtech has been singled out for special recognition by the Institute of Navigation for outstanding design and technological innovation.

ASHTECH



GPS Growth Prompts Ashtech Move to Expanded Facilities

Sunnyvale, CA—Ashtech Inc., the leading manufacturer of high precision GPS receivers, is moving to expanded headquarters during the month of April, 1990. The new building provides more than 20,000 square feet.

Worldwide interest in GPS applications has been matched by the growing Ashtech presence in both survey and navigation communities according to Ashtech president, Javad Ashjaee, Ph.D. "We are involved in GPS hardware and software development for a variety of applications and fully intend to remain the world's most expert GPS company." The first Ashtech XII GPS receiver was delivered in 1988, after completing all FGCC test procedures.

Located at 390 Potrero in Sunnyvale, between the Central Expressway and Highway 101 in the center of California's

Silicon Valley, the new Ashtech headquarters building includes a larger, full-service GPS training facility.

ANTHONY STEPHENSON HEADS NEW ASHTECH GULF OFFICE

Houston, TX—Responding to increased demand for GPS land survey support and offshore precision positioning utilizing real-time differential GPS techniques, Ashtech has opened a regional office to directly serve the greater Gulf Coast Region.

Anthony G. Stephenson, well known in the land survey and navigation communities with particular expertise in energy exploration and oceanographic studies, has been appointed Ashtech Regional Manager with offices in Houston at 5925 Sovereign Drive, #101 phone (713) 988-1614.

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