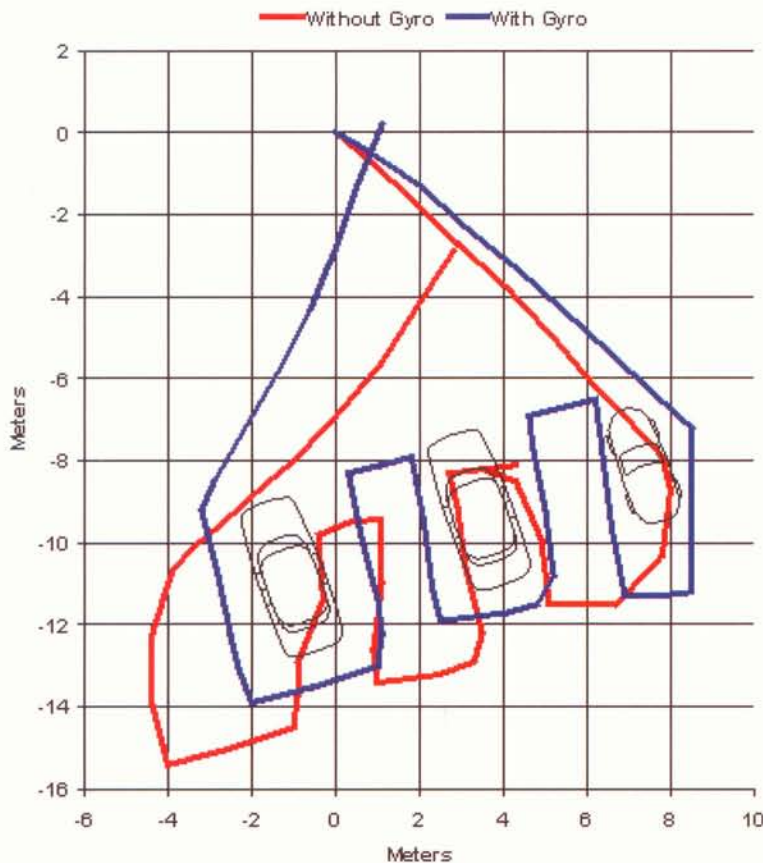


GyroDRM™ Gyro-Stabilized Dead Reckoning Module

Inertially aided dead reckoning navigation for personnel on foot



- Robust personnel navigation
- Navigate without GPS
- Errors 1 to 5 meters per 100 meters
- Gyro-stabilized version of DRM®-III
- No infrastructure required
- 12-channel civilian GPS receiver
- Data recording capability
- Event marker
- Barometric altimeter
- SmartPedometry™ algorithms
- Composite dead reckoning + GPS
- Magnetic anomaly alarm

GyroDRM™ provides reliable, self-contained position data for personnel on foot when navigating in areas where Global Positioning System (GPS) signals are difficult to receive. Advanced silicon gyro technology combined with Point Research's proven DRM®-III provides significantly reduced effects of magnetic disturbances on position accuracy. The GyroDRM™ is provided as an integrated unit, complete with GPS receiver, lithium ion-polymer battery, data recording memory and event marker. This unit can be used in a stand-alone mode without a host computer to record the

position and direction of the person to which it is attached. Recording intervals of up to 24 hours are feasible. Improved algorithms provide discrimination for backward and lateral motion, as well as ignoring a person's "fidgeting" motions. The unit is designed to self-calibrate when GPS is available. The World Magnetic Model is built-in so that the integral magnetic compass can automatically provide azimuth referenced to true north. A magnetic anomaly alarm can be used to detect persistent magnetic disturbances at a user-defined level.

Applications

- Military
- RF field mapping
- Public safety
- Urban mapping
- Security guards
- Forestry
- GIS

Honeywell

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GyroDRM™ Gyro-Stabilized Dead Reckoning Module

SPECIFICATIONS

Parameter	Value
Dead reckoning relative position accuracy	1 to 5 meters per 100 m without GPS fix (1% to 5% distance traveled)
Barometric altimeter accuracy	1.5 meters, 1 meter resolution
Azimuth accuracy	1° RMS
Angular rate range	±573°/second
GPS receiver	12-channel SPS
Housing size	4.4" x 3.2" x 1.5"
Weight	12 ounces
Temperature range	0° to +70° C
Power, average	0.6 watts
Battery	8.4v Li-Ion Polymer
Data refresh rate	Up to 4Hz.
Serial data interface	RS-232C levels, 9.6K-38.4 K b/s
Connector	DB-9

FEATURES

Data Logging Memory

- 32K records, user defined sample interval
- ASCII download to personal computer

Interface Protocol

- Point Research binary, bi-directional
- NMEA0183, 9600 b/s, RMC sentence

Software Features

- Kalman filter blended GPS/dead reckoning
- World Magnetic Model for true azimuth
- Metabolic expenditure (calories)
- Body orientation, prone, upright, etc.
- Field upgradable firmware
- Provision for external position fixes
- User definable power-up defaults

GPS Receiver

- 12-channel, L1, SiRFstar1
- 5 meters CEP accuracy, S/A off
- Power management modes
- Coin cell memory battery backup
- Active patch antenna

ENGINEERING EVALUATION KIT

- GyroDRM™ with battery (A) in plastic housing with belt clip.
- Windows® host test program (B) with data recording and graphic data display. Programmer / User manual includes binary protocol definition
- GPS active antenna (C)
- Computer interface (D), RS232 DB-9 serial
- Event marker switch (E)
- AC power adapter (F)
- Li-ion battery charger (G)
- Baseball cap with hook & loop for GPS antenna
- Technical support via phone or email

U.S. Patent No. 5,583,776 and other patents pending
DRM is a registered trademark of Point Research Corporation.
GyroDRM is a trademark of Point Research Corporation.
Specifications and features subject to change without notice.
Revision of September 2004.



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