

GPS-aided Inertial Navigation System on a Chip



VectorNav Technologies, USA, has presented the VN-200, a high-accuracy GPS-aided Inertial Navigation System (GPS/INS) on a surface-mount chip the size of a postage stamp. Combining an advanced GPS module with MEMS inertial and pressure sensor technology, the patent-pending VN-200 provides a coupled position, velocity and attitude solution that is robust to a wide range of static and dynamic operating conditions.

The VN-200 onboard microprocessor runs an aerospace-grade Kalman filter algorithm at a rate of up to 200Hz and provides accuracies better than 0.25 degrees in pitch and roll and 0.75 degrees in heading.

The release of VectorNav's VN-200 provides the option of a fully embeddable, high-accuracy GPS/INS on the market offering performance competitive with the 'heritage' systems that have long defined the standard for inertial navigation. Boasting low size, weight, and power (SWAP) requirements of GPS/INS, the VN-200 will enable the next generation of aerospace, automotive, marine, entertainment, military, and robotics applications.

The VN-200 GPS/INS is well suited for guidance, navigation and control of UAVs and other unmanned vehicle systems, camera and platform stabilisation, targeting/positioning, robotics, pointing and attitude reference, military and maritime applications, flight control and simulation, and augmented reality applications.

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