

Globally Corrected GPS (GcGPS): C-Nav GPS System

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Abstract

C&C Technologies, Inc., GPS Services Group has embarked on a program to provide 'global' corrected GPS (GcGPS) positioning services for the hydrographic and offshore oil field exploration, survey and construction industries.

To achieve this goal, C&C Technologies has partnered with NavCom Technology Inc., a wholly owned subsidiary of John Deere & Co., to provide both a continental implementation of a Wide Area Differential GPS (WADGPS) system which provides a new level of accuracy across continental distances, and also by use of technology from the Jet Propulsion Laboratory to implement a worldwide GPS positioning solution with accuracies of the order of a few decimeters. These systems are designed for dual frequency GPS signal operations and are based on several key technical developments, which are discussed in the paper.

The paper also reviews errors in GPS measurements, the StarFire system architecture, infrastructure, GPS performance, and user equipment. Surface navigation positioning examples are provided for the current operational system and the future directions that are planned for the systems continued implementation is outlined.

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