

Overview

The present invention relates generally to a terrestrial positioning and timing system (TPTS) that draws upon the heritage of current terrestrial distance, bearing, and positioning systems used in aviation, while incorporating new concepts for signal structure and implementation techniques to provide a terrestrial user position, navigation, and time (PNT) service. The TPTS also draws upon the concepts and techniques of terrestrial based differentially corrected pseudo satellites (“pseudo-lites”), using a modified code division multiple access (CDMA) Global Positioning Systems (GPS) signal format. The TPTS may be considered an alternative PNT service, for use when the GPS is not available.

The TPTS may be comprised of a TPTS ground segment with one or more stations and a user segment that may contain a plurality of TPTS users. The need for position, velocity, or time of a mobile user is not limited to aviation applications. Just as aviation users could use the TPTS station in times when a supporting GNSS is not available, other types of users, such as land, can use a suitably configured TPTS station to support its position, velocity, or timing requirement.



TERRESTRIAL POSITION AND TIMING SYSTEM

OU ID: #12020

Commercial Application

- Use in aircraft and air transport vehicles and systems.
- Use in developing UAV market, particularly in times of crowded airspace requiring high degree of control
- Use in land-based vehicles requiring the tracking of position, velocity, and time information

Benefits

- Not dependent on the accuracy and timeliness of the DME and VOR systems
- Not restricted to aircraft usage

IP Status

- Issued U.S. Patent No. 9,851,429

About the Inventor

Chris Bartone, Ph.D. is a professor of electrical engineering and computer science here at Ohio University's Stocker Center. Dr. Bartone first conceived this technology in October of 2011 and has been working on development since.



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