

FREQUENCY COHERENCE WITHIN A LOCATION NETWORK

ABSTRACT

The present invention discloses a system and method of generating frequency coherence between a received reference positioning signal transmitted by at least one reference transmitter and a unique positioning signal generated by a positioning-unit device. A positioning-unit device is a specialized transceiver capable of receiving and interpreting reference positioning signals from the reference transmitter, another positioning-unit device or both. The positioning-unit device receives a reference positioning signal and measures a frequency offset in the received reference positioning signal relative to a common oscillator. Once a frequency offset is measured, the positioning-unit device adjusts a frequency steerable clock by an amount derived from the measured frequency offset. The positioning-unit device then generates a unique positioning signal, which is aligned with the frequency steerable clock. Furthermore, the positioning-unit device continuously adjusts said unique positioning signal by applying the measured frequency offset to the frequency steerable clock, which is referenced to the common oscillator. Subsequently, the frequency of the adjusted unique positioning signal is aligned with the frequency of the received reference positioning signal.

Figure 2