

A FREQUENCY AGILE, SECURE VIDEO LINK FOR U.S. TEST RANGES



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ABSTRACT

DoD has established a goal of having range telemetry and video RF links on all national test ranges secure and/or encrypted in the near future. Emhiser Research has developed a new family of digitally synthesized, frequency agile, video transmitter and receiver sets. These video sets, which operate at L-band, S-band, or C-band frequencies, are frequency agile, changing frequency on each video line. The frequency changes take place during retrace in about 6 microseconds. Through the use of novel, frequency synthesization techniques, each new frequency is immediately stable at the new frequency value and frequency synchronization and lock problems have been solved. This paper describes the operation of both the transmitter and receiver, presents block diagrams and outlines test results on the prototype units, novel features and advantages will be outlined and possible applications will be discussed.