# Rancang dan Analisa Metode Sistem Voice Crypto Alignment Block Synchronization (VoCABS) untuk Kepresisian dan Keamanan Strategis pada Komunikasi Handie Talkie Berbasis MATLAB = "Design and Analysis of Voice Crypto Alignment Block Synchronization (VoCABS) System Method for Precision and Security of Strategic Communication in the Use of Handie Talkie Based on MATLAB"

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Abstrak

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Dalam dunia militer, khususnya intelejen, pesan suara sering digunakan dalam bertukar informasi jarak jauh. Penyadapan lumrah terjadi meski pesan terenkripsi. Divais berfitur keamanan tinggi yang beredar masih langka dan mahal. Kasus ini penulis tujukan pada penggunaan HT atau Handie Talkie. Topik ini menciptakan solusi bernama VoCABS atau Voice Crypto Alignment Block Synchronization, berupa algoritma sinkronisasi sinyal (pilot) untuk mengatasi misalignment-block yang merupakan ketidakpresisian divais menyinkronisasi sinyal suara, meleset sepersekian detik saja akan ada informasi yang hilang. Algoritma mendeteksi pola dan mencocokan nilai sampling, sehingga ditemukan nilai tertinggi sebagai acuan. Penulis berfokus memastikan supaya tanda mulai dan berhenti pada divais bisa sama (sinkron). Pengembangan berikutnya diharapkan algoritma diimplentasikan ke alat yang terhubung dengan HT, bila divais saling konfirmasi telah sinkron, percakapan HT bisa dimulai. Skenario menggunakan 3 HT berbeda merk. Di ruang tertutup, HT berpasangan berjarak 1 meter diuji mengirim sinyal sinusoidal dengan kondisi buatan dan real, dicocokan pada sinyal sample di posisi penerima. HT dihubungkan ke laptop (pengganti orang) dengan bantuan Audacity. Berlandaskan metode Matlab Xcorrelation algoritma ini berhasil mendeteksi gelombang, delay, lag difference, index fungsi, dan nilai sampling secara presisi sehingga pola sinyal pengirim dan penerima bisa sinkron dengan rentang akurasi 98 hingga 100%.

<hr><i><b>ABSTRACT</b>
n the military world, especially intelligence, voice messages are often used in exchanging information over long distances. Tapping is common even if the message is encrypted. The outstanding high security features are still rare and expensive. This case the author focuses on the use of HT or Handie Talkie. This topic creates a solution called VoCABS or Voice Crypto Alignment Block Synchronization, in the form of a signal synchronization algorithm (pilot) to overcome misalignment block which is an imperfection of devices synchronizing sound signals, missing only a split second there will be missing information. The algorithm detects the pattern and matches the sampling value, so that the highest value is found as a reference. The author focuses on ensuring that the start and stop signs on the device can be the same (synchronous). The next development is expected that the algorithm will be implemented to devices that are connected to HT, if the devices for mutual confirmation are synchronized, HT conversations can be started. The scenario uses 3 different HT brands. In a closed room, a pair of 1 meter HT is tested sending a sinusoidal signal with artificial and real conditions, matched to the sample signal at the receiver's position. HT is connected to a laptop (substitute for person) with the help of Audacity. Based on Matlab Xcorrelation method, this algorithm is able to detect waves, delay, lag difference, function index, and sampling values

precisely so that the sender and receiver signal patterns can be synchronized with accuracy range of 98 to 100%.<i/>