

## Abstract

A design of speech security systems for telephone channels is presented. It is based on the method of adding the speech signal to a pseudo-random noise (PRN) signal which is removable by the authorized receiver but not removable by others. The method involves the cancellation of the effect of the telephone channel distortion on the PRN signal, which causes a significant residual PRN signal, through the use of adaptive filtering. Another technique is used to cancel the distortion due to PRN signal synchronization error. This method is shown to provide both good quality of speech for authorized receivers and high security of speech against unauthorized receivers