ABSTRACT

Public Switch Telephone Network PSTN is an analog exist communication media until now, even the number of its user is rising every year. Based on security aspect, PSTN is a very insecure media for taping. Therefore, it is needed voice security technique to save the information which through in it. By taking the benefits of random data, the facility of secure information will be kept. But, it needs a support device where the security system's reliability and economic are much needed in implementing the algorithm.

The advantage of Microcontroller as a support device to implement secure data algorithm can be done, because the feature of Microcontroller more complete so it can be implemented to any kinds of media, this thing give some advantages; the equipment's practical and reliability is higher.

This final project creates and implements S-Box (data encryption) into Microcontroller AVR ATMEGA8535 as a random voice system on telephone line. Basically, the system consists of some circuit blocks that works on digital signal or analog. Analog signal that can be processed is limited to voice signal, where the frequency is less then 3400 Hz (human's range voice) that will be encrypted later.

Keyword: Telephone, voice, S-Box, AVR ATMEGA8535.