

ABSTRACT

Telkom University has several laboratories in the Faculty of Applied Sciences. The Telecommunications Engineering Diploma program has a communication system laboratory that can support communication system courses. Practicum communication systems still use kit tools and kit tools are limited in use. Based on questionnaire data from several students who have taken communication system courses, communication system practicums require simulators because of the limited tools and so that students can easily understand practicum theory.

This Final Project discusses the block of digital communication systems with data input of text. After the data is entered then it will be processed in the source coding block using ASCII (American Standard Code for Information Interchange), the next block is channel coding using convolutional code. After that, there is a modulator block that uses a digital modulation process, namely QAM (Quadrature Amplitude Modulation) and through 3 channels, namely AWGN (Additive White Gaussian Noise), and Rayleigh,. Then end with the demodulation process. The method used to test the performance results of this system is BER (Bit Error Rate) by comparing the output that occurs in the demodulation process with the initial input sent.

This Final Project can be support about learning the block of digital communication systems in the reyleigh fading channel for input text in accordance with the block theory of digital communication systems..

Keywords: *Teks, ASCII (American Standard Code for Information Interchange), AWGN (Additive White Gaussian Noise), Rayleigh, BER (Bit Error Rate).*