ABSTRACT

ANGGUN NOVITA YESSI RATNASARI, Department of Electrical Engineering, Brawijaya University, Mei 2015, *Effect of Type Line Coding System On Performance Plastic Optical Fiber (POF) With Noise Variation*, Advisor: Dr. Ir. Sholeh Hadi Pramono, M.S. and Sapriesty Nainy Sari, S.T., M.T.

Abstract - The risk of error often occurs in the process of sending information between sender and receiver. This can reduce the performance of the system performance. Line Coding is one type of coding used to improve the performance of a system. There are three basic types of binary line code commonly used in fiber-optic communication is Return to Zero (RZ), Non Return to Zero (NRZ) and Phase Encoder (PE) better known as Manchester. Plastic Optical Fiber (POF) is a transmission medium that has been able to be used for triple play services. In this study will examine the experiment on the effect of the type of line coding using Plastic Optical Fiber (POF) with a variety of transmission media noise. Observed performance parameters BER and Eye Pattern. The results showed that the type of line coding can affect system performance POF. By giving the effect of noise, the Manchester line coding has a better performance when compared with the line coding type of NRZ-M, NRZ-L, BIP-RZ, and UNI-RZ. This is evidenced from the lowest BER value of 22 dB noise level at 26,283x10-3, the highest SNR 0 dB noise level with a value of 22.934%, 86.014% margin noise, timing jitter 4.393%, and the value of the bit rate of 2082.03 bps.

Keyword — Line Coding, Plastic Optical Fiber, Noise, Bit Error Rate, Eye Pattern