EXPERIMENT # 6

Performance Comparison of BASK and BPSK Modulation

INTRODUCTION

The basic criteria for best modulation scheme depends on Bit Error Rate (BER), Signal to Noise Ratio (SNR), Available Bandwidth, Power efficiency, better Quality of Service, cost effectiveness. The performance of each modulation scheme is measured by estimating its probability of error produced by noise and interference induced in the channel. Modulation methods which are capable of transmitting more bits per symbol are more vulnerable to error caused by noise.

For example, the binary message, the modulated and the received signal passed over AWGN channel are shown in Figure 1 in case of binary ASK and PSK modulation respectively.

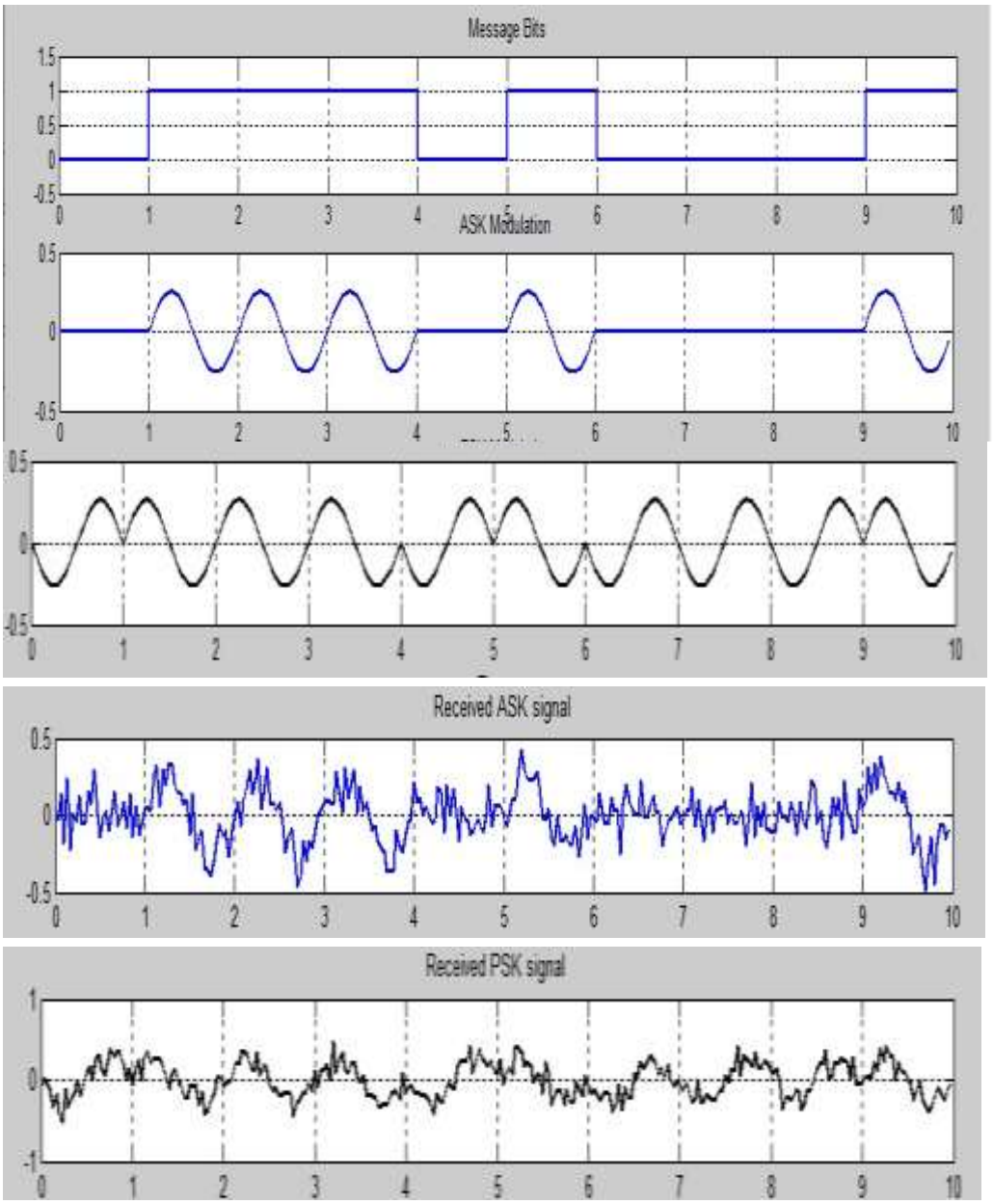

Figure 1.

Laboratory Procedure:

1- Set up the block diagram as shown in Figure 2 using BPSK and BASK modulation/demodulation scheme concurrently.

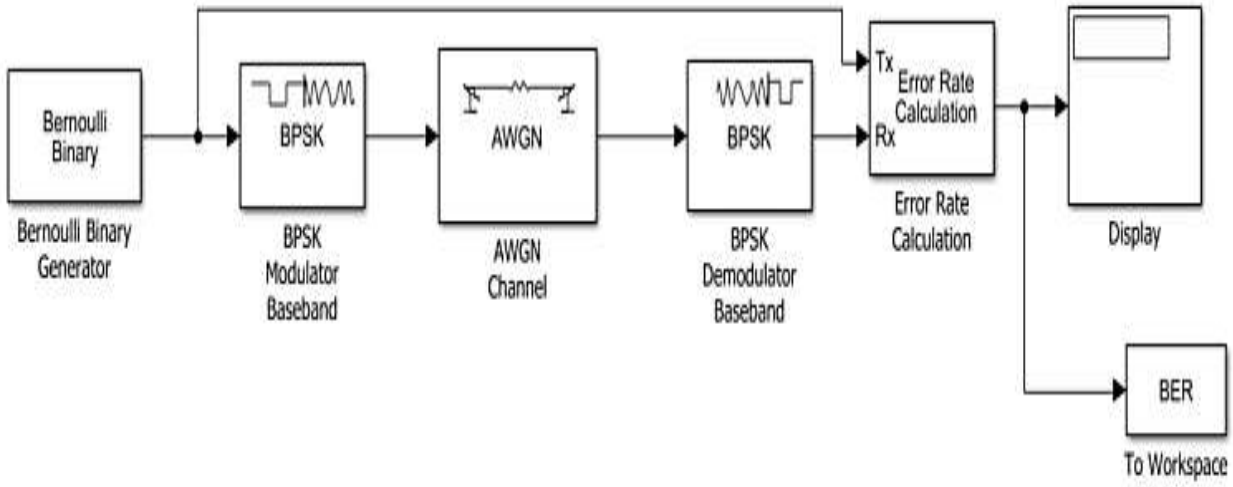

Figure 2: Performance Evaluation Block Diagram.

2- Record the BER values for both systems at different SNR in the channel.
3- Evaluate the performance of both systems over a fading channel.

Report:

- Plot the BER versus SNR in both systems over AWGN and fading channel.
- Explain the reason of having those error performance.