

1 Objectives

The objective for this lab is to construct a sequence of shaped pulses and examine the role of pulse shape on intersymbol interference and the effect of noise.

During this lab we will look at 4 different types of line code:

- Polar
- On-Off
- Bipolar
- Duobinary

2 Procedure

2.1 Pulse Types

During this lab we will be using a variety of pulse shapes. Below are the different pulse shapes that I used.

2.1.1 Raised Cosine Pulse

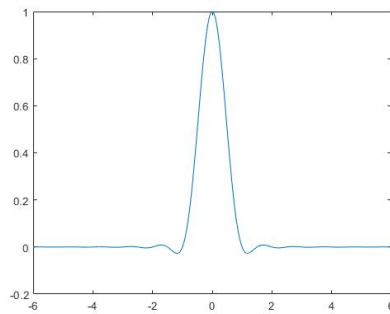
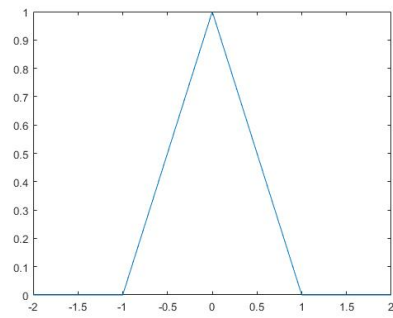
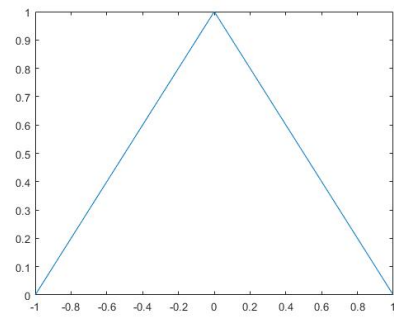


Figure 1: Raised Cosine Pulse

2.1.2 Triangle Pulse



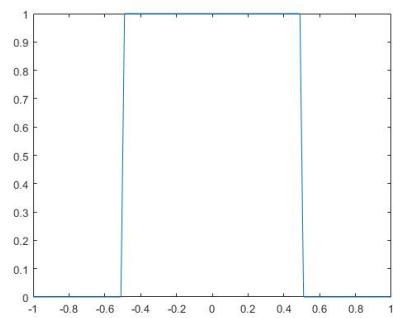
(a) Triangular Half Width Pulse



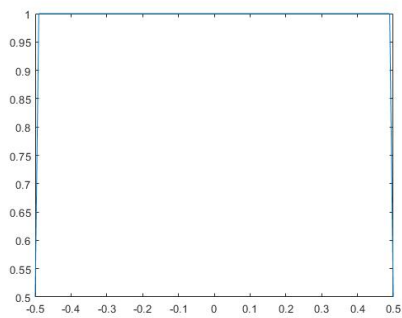
(b) Triangular Full Width Pulse

Figure 2: Triangular Pulse

2.1.3 Rectangle Half Width



(a) Rectangular Half Width Pulse



(b) Rectangular Full Width Pulse

Figure 3: Triangular Pulse

2.1.4 Sinc

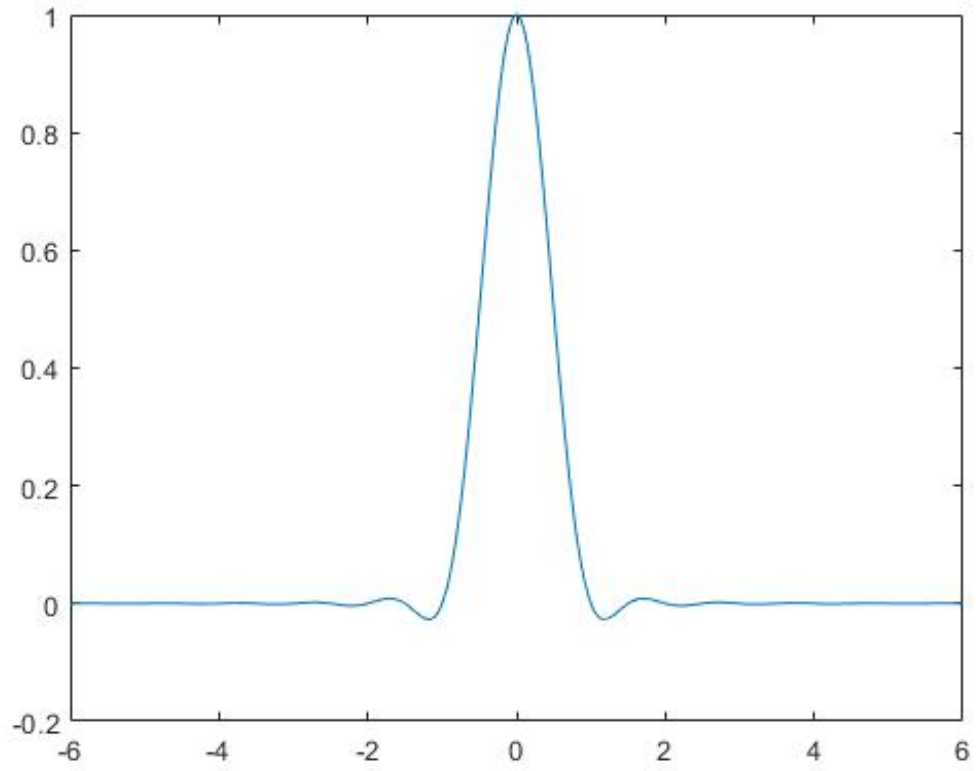


Figure 4: Raised Cosine Pulse

2.1.5 Sinc Squared

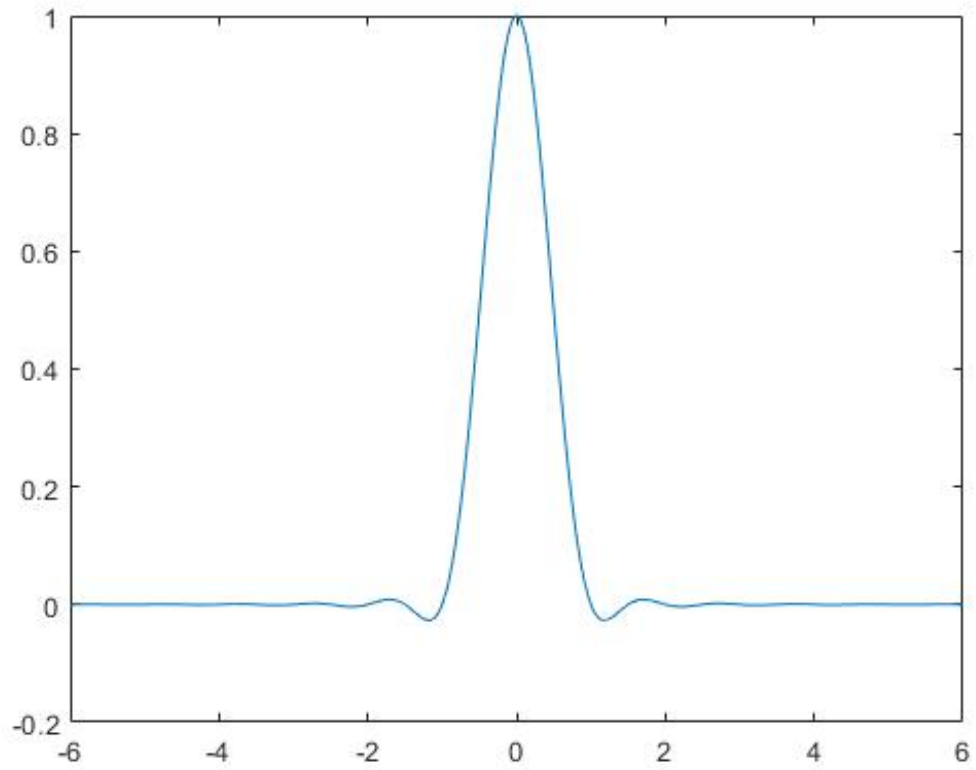


Figure 5: Raised Cosine Pulse

2.2 Sin Pulse

3 Results

3.1 Polar

3.2 On-Off

3.3 Bipolar

3.4 Duobinary