

University of science and technology at Zewailcity

Part 2

Instructor: DR. Samy Soliman

Khaled Osama 201600515

Mustafa Elsayed 201600848

Hatem Yahia 201600514

Ahmed Aboulela 201600566

Encoder:

* The encoder we made has 3 mainline codes

1. Unipolar nonreturn to zero

Bipolar nonreturn to zero

1. Manchester

* We get from the user the following parameters:

1. The information array.
2. The duration of each bit of information.
3. The sampling frequency.
4. The amplitude of the output (peak to peak).
5. The type of encoding.

* Note: if the number of points representing a bit is odd, we make the first half of the pulse gets the extra point in the Manchester encoding, in order to maintain consistency.

Test case:

* We have used a test case to test the encoder alone with:

1. Fs =10.
2. bit duration = 0.0001.
3. information array = [0 1 1 0 1 0 0 1].
4. peak to peak amplitude =1.

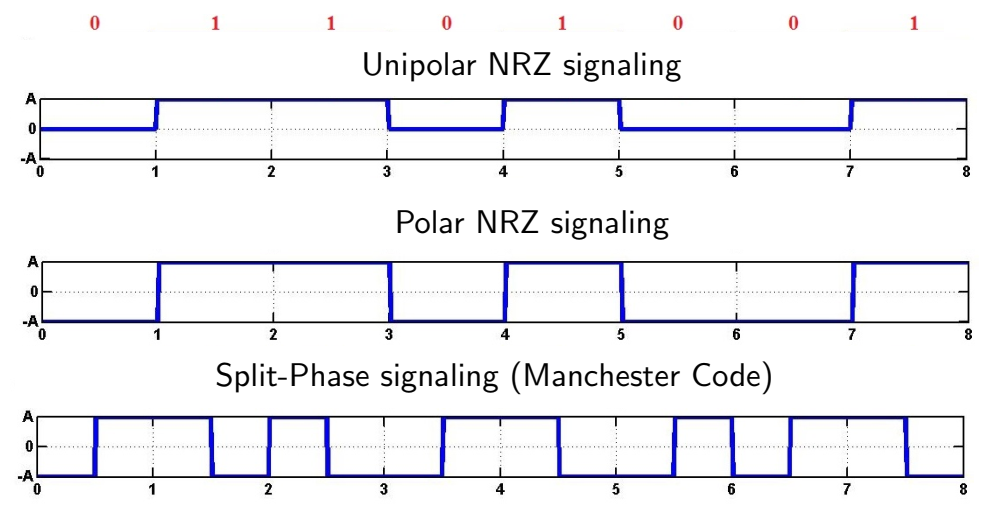
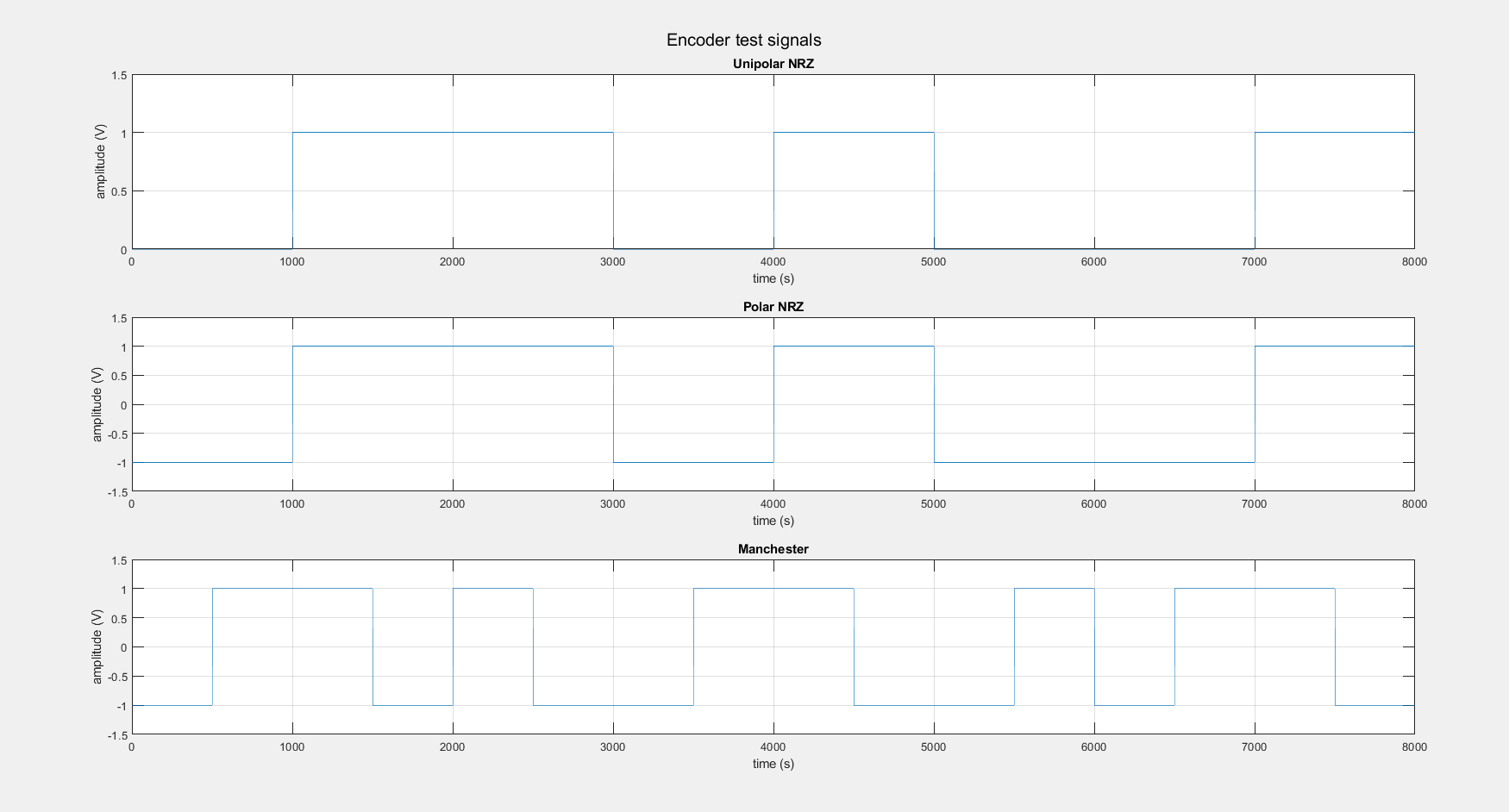


Figure 2 the output of the function, we can observe that it matches the expected results

Figure 1 this is the example used to test the function along with the expected output