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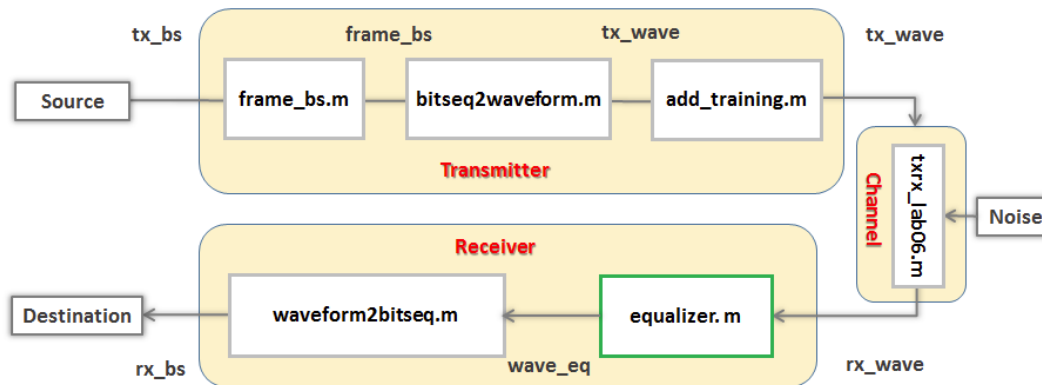
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LAB 6 TASK 4 - EVALUATION OF EQUALIZER (1 point possible)

In this task, you will evaluate the performance of the equalizer by computing the BER of the communication system with and without equalization for different bit times (SPB).



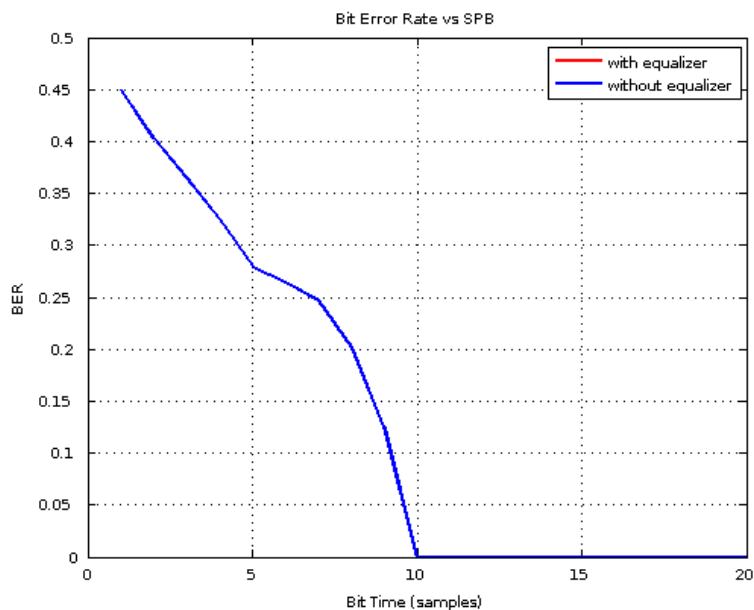
```

1 tx_bs=rand(1,1280)>0.5;    % generate a random bit sequence
2
3 SPBlist = 1:20;           % list of bit times to test
4 num_SPB = length(SPBlist); % number of bit times to test
5 BER = zeros(1,num_SPB);   % initialize bit error rate array
6 BER_eq = zeros(1,num_SPB); % initialize bit error rate array
7
8 for i = 1:num_SPB,
9     SPB = SPBlist(i);
10    tx_wave = format_bitseq(tx_bs,SPB); % create waveform
11    rx_wave = txrx_lab06(tx_wave);      % simulate channel
12    start_ind = find_start_lab06(rx_wave); % find start bit
13
14    % get bits from unequalized waveform
15    threshold = get_threshold(rx_wave);

```

Unanswered

Figure 1

[Run Code](#)[Check](#)[Save](#)

You have used 0 of 10 submissions

INSTRUCTIONS

The code in the above window is similar to that of Lab 4, where we evaluated the performance of a communication system by computing the bit error rate (BER). If you run the MATLAB code as presented, you will see plot of the BER without equalization as a function of the bit time in samples, showing that the BER decreases as the bit time (SPB) increases. Your job is to compute the BER of the communication system with equalization and then plot it in the same figure.

Step 1: Modify the code to compute the bit error rate for the equalized waveform and plot results

To complete this task, you should add code under the comments starting with

% Replace the line below so that

Your code should compute the BER with equalization for each bit time in **SPBList** and store it in the corresponding element of the vector **BER_eq**.

Step 2: Submit your work

Once you have completed your work, click on the **Check** button to submit your answer. Based on the graphs, how does the BER change after applying the equalizer?





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