# Error Correction using Convolutional Codes
## Anubhav Bhatla
200070008

Flow: I have used a 16KHz audio file, unpacked the bytes, encoded it using a convolutional code, and then passed it through the previously design FSK block (noisy). After this we require mapping of the symbols to [-1,1] and then they can be decoded. The BER block helps measure the bit-error rate between the input and output data.
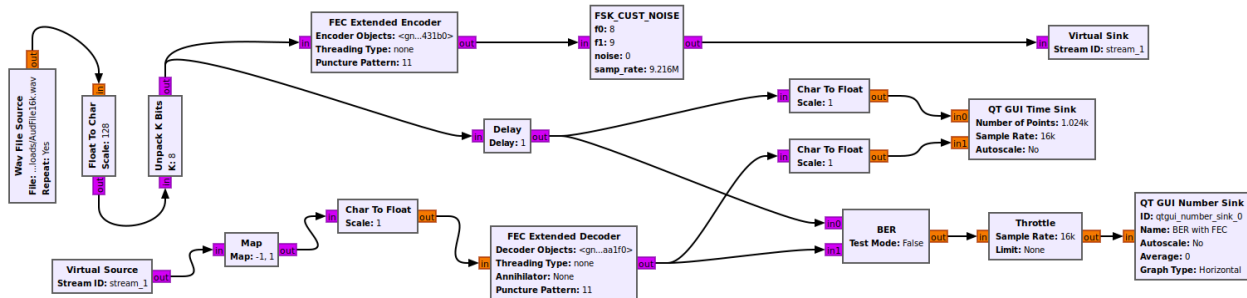
Here we can observe that the input data (before encoding) and output data (after decoding) are exactly same. Therefore, FEC is working correctly for no noise. We can also observe no errors for the flow without FEC.
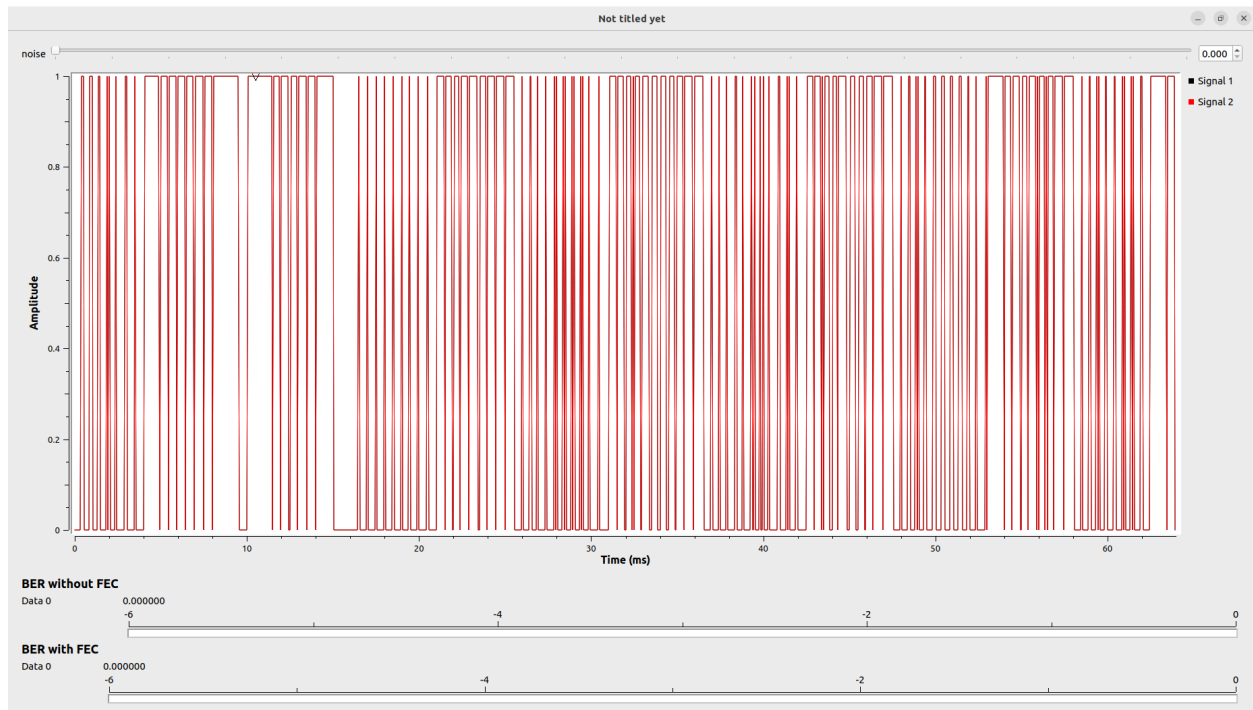
As we increase the noise amplitude to around 0.6, we start observing errors in the flow without FEC. However, with FEC, we still have no errors.
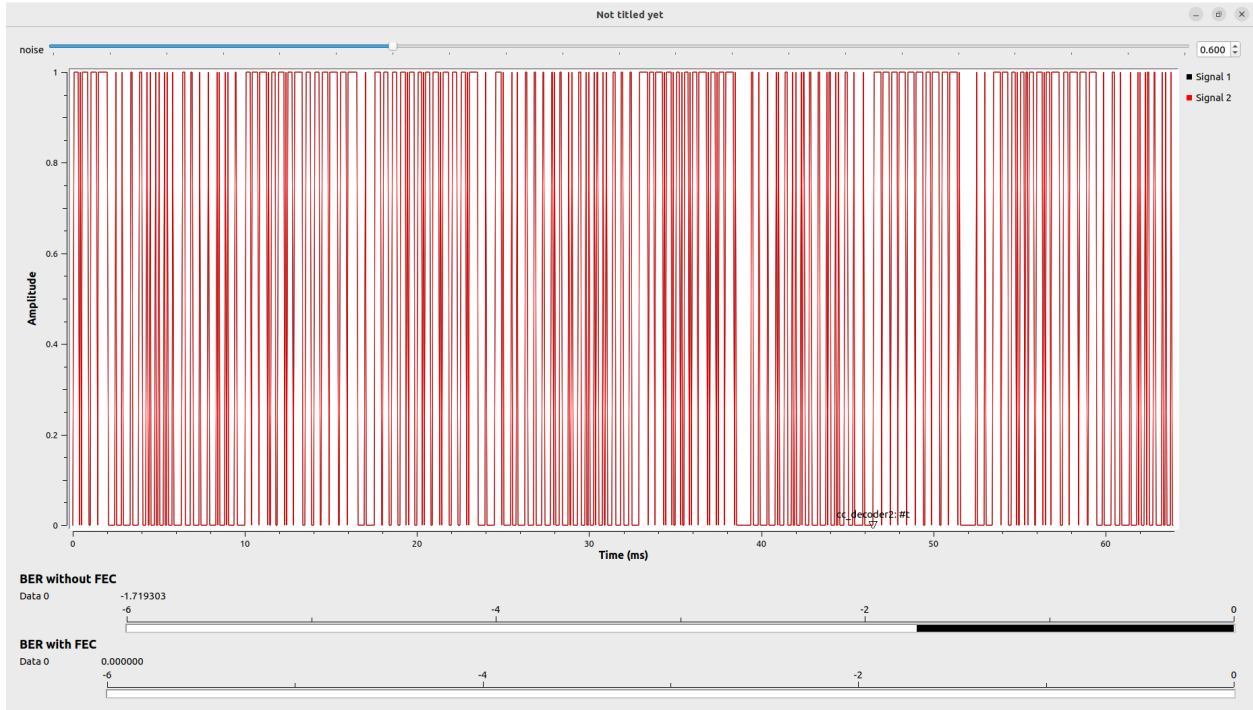
Only once we increase the noise amplitude to around 1.1, we start seeing errors in the flow with FEC. This shows that error correction mechanisms help correct for some amount of noise in the FSK flow.