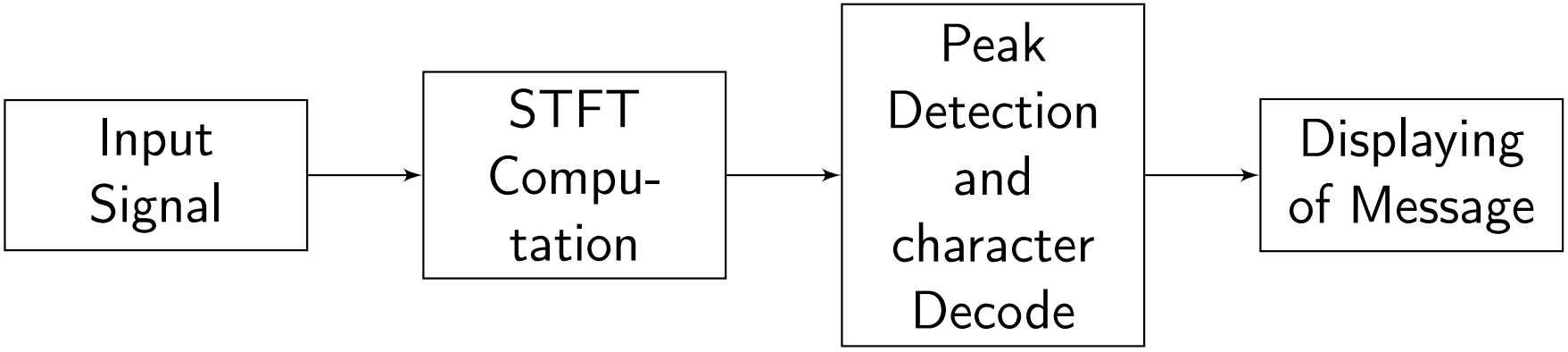
DSP Computer Project

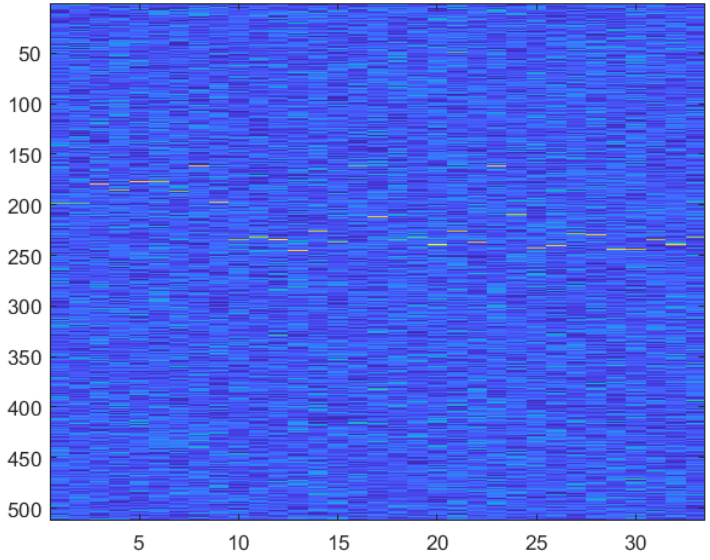
Group 3

Problem 2

Part 1: Detection

Block Diagram and Approach

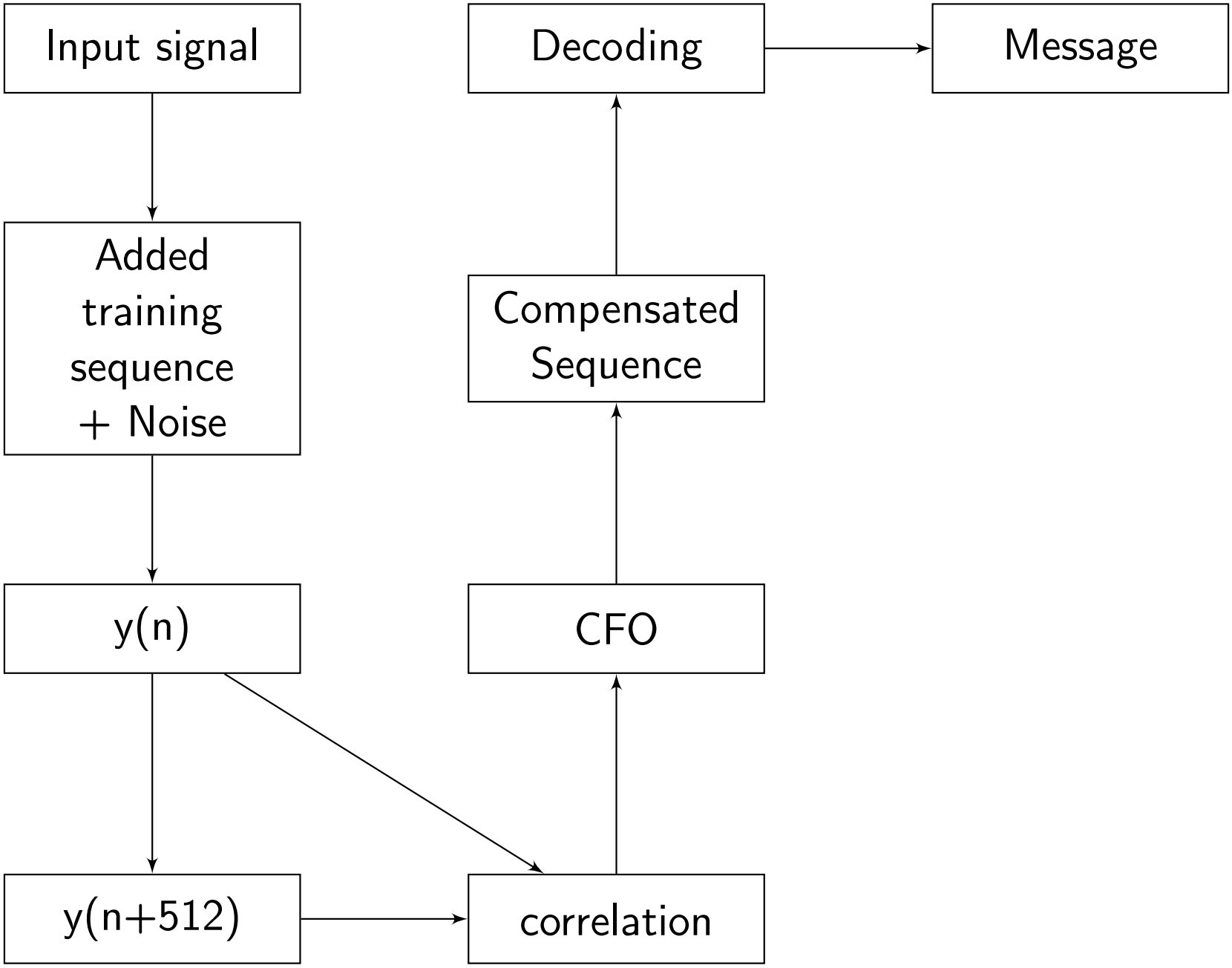




Limitations

- At SNR -15, we are getting an error of 9% .

Part 2: Frequency Synchronization



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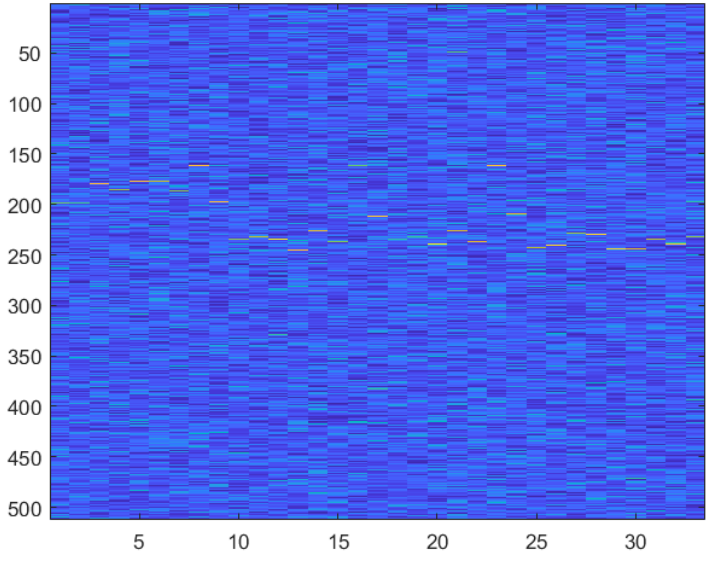

Assumptions

- We took the offset=$2\times\pi/1050$.

Limitations

- We can't put offset $>$ 2 $\times\pi/1024$.

Equation

$$R_{yy} = \sum_{n=0}^{511} y(n)^* y(n+512) \tag{1}$$

$$= \sum_{n=0}^{511} |y(n)|^2 e^{(j\delta\omega\times 512)} \tag{2}$$