

Goal: The purpose of this project is to provide some hands-on experience with some basic DSP operations and verify some of the properties of discrete-time systems. Any available software can be used.

PART 1: Download and unzip the file from: <http://classes.cecs.ucf.edu/eel4750/kasparis/>

The file contains several filters, programs, documents and sound files.

- a) Generate the frequency response (magnitude and phase) of all the filters in the interval 0 to π and make comments about the shapes.
- b) For the BPASS and BSTOP generate the magnitude response in the interval 0 to 2π and explain what you see.

PART 2:

- a) Using any computer facility, speak your name in a microphone and record it in the computer. Use any sampling rate above 11 KHz, but use 16 bits/sample and mono setting.
- b) Generate and plot the spectrum of your voice.
- c) Use the program "jam.exe" provided by Dr. Kasparis to contaminate your voice with two sinusoids of normalized frequencies 0.05 and 0.13.
- d) Generate and plot the spectrum of your contaminated voice. Also listen to it.
- e) Filter your contaminated voice with the provided filter NOTCH-2
- f) Listen to the resulting signal. Also, generate and plot the frequency spectrum

DELIVERABLES:

- 1) All requested plots
- 2) A disk with the three voice files in part 2.
- 3) One page essay on summary and conclusions for each part.

DUE DATE: March 17