

*final Lab*

*Audio Equalizer*

*Command-Line Version*

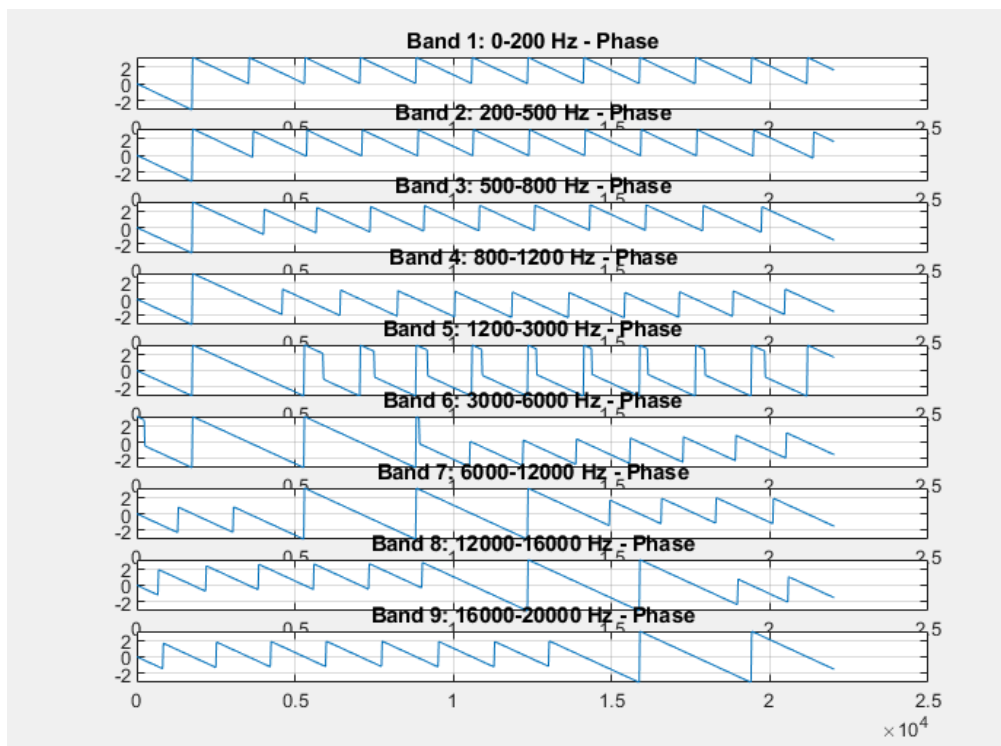
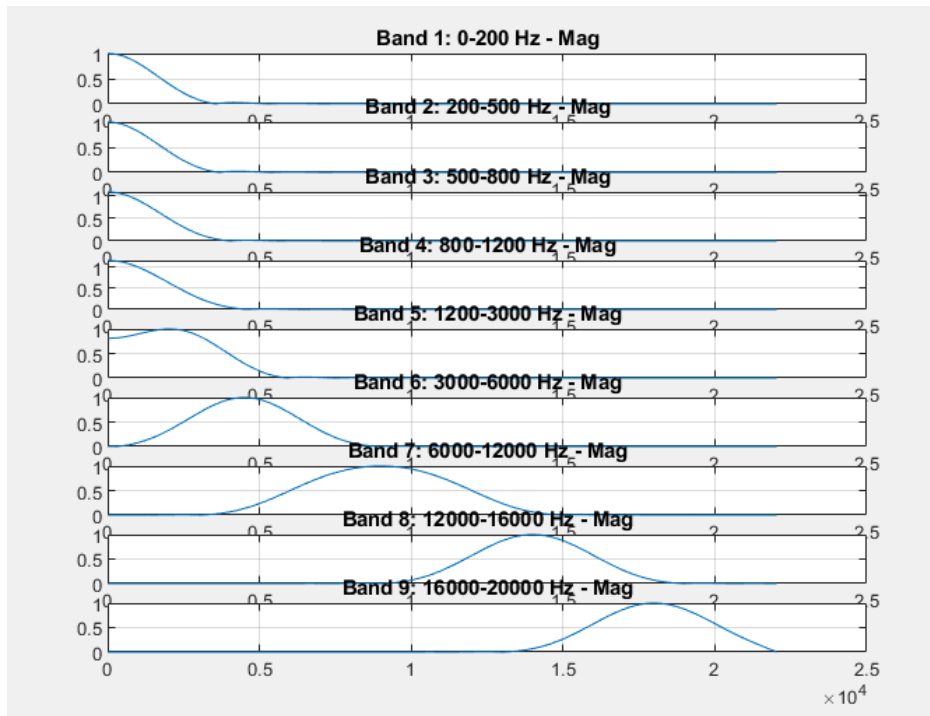
*DSP*

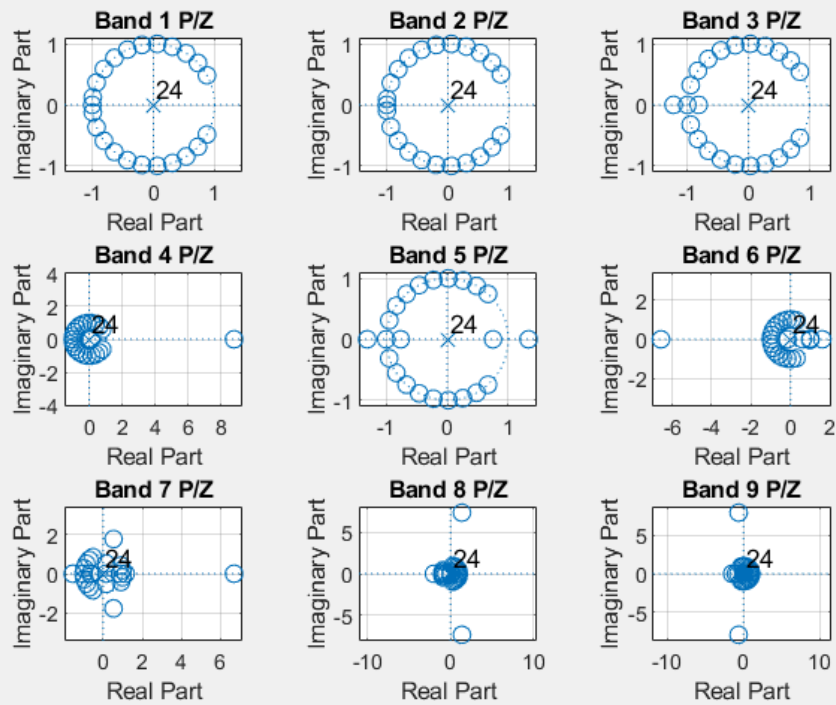
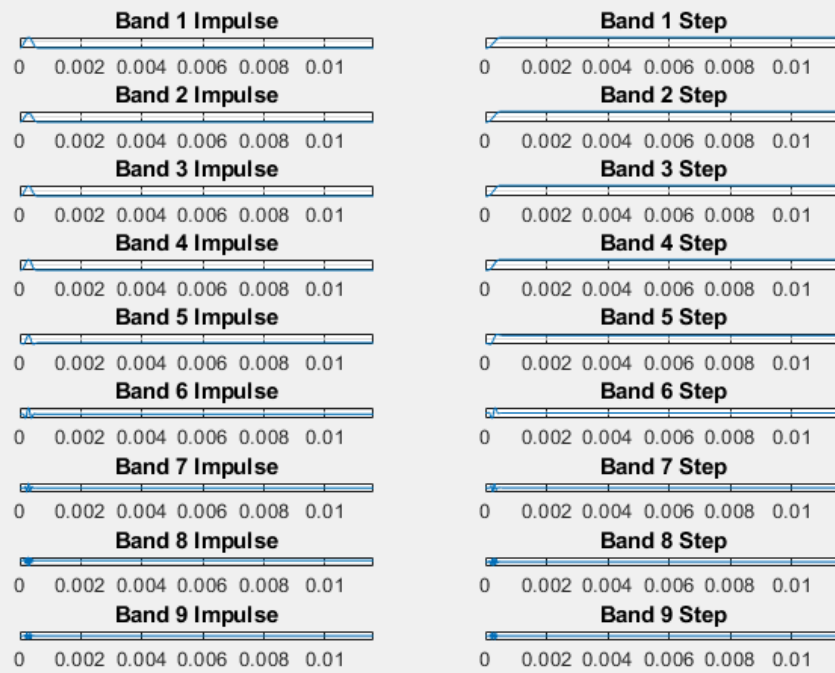


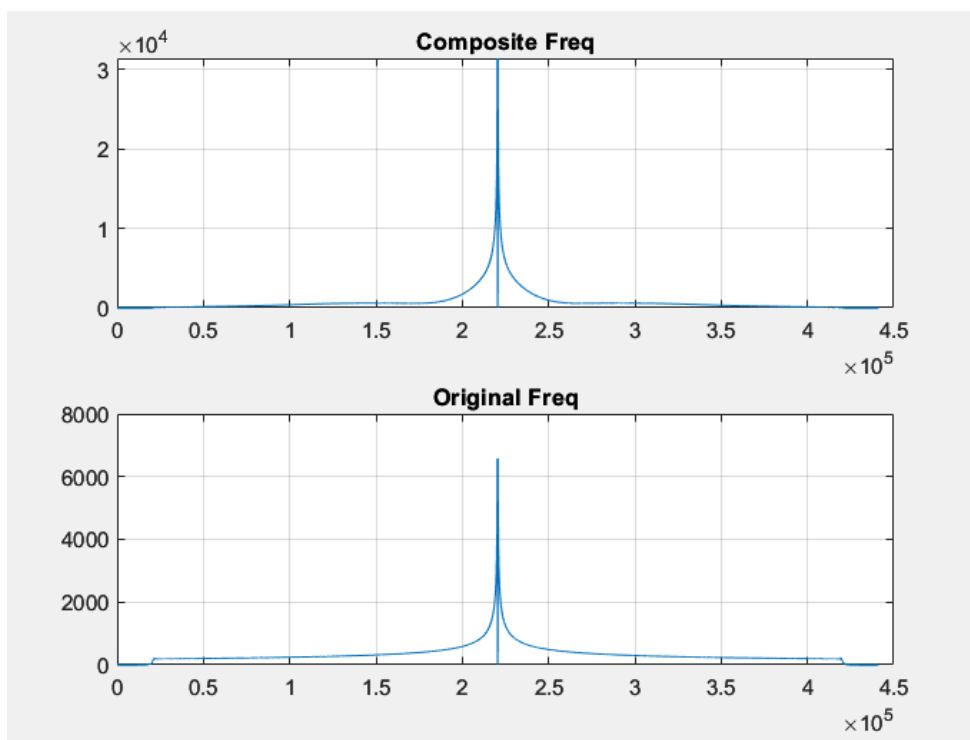
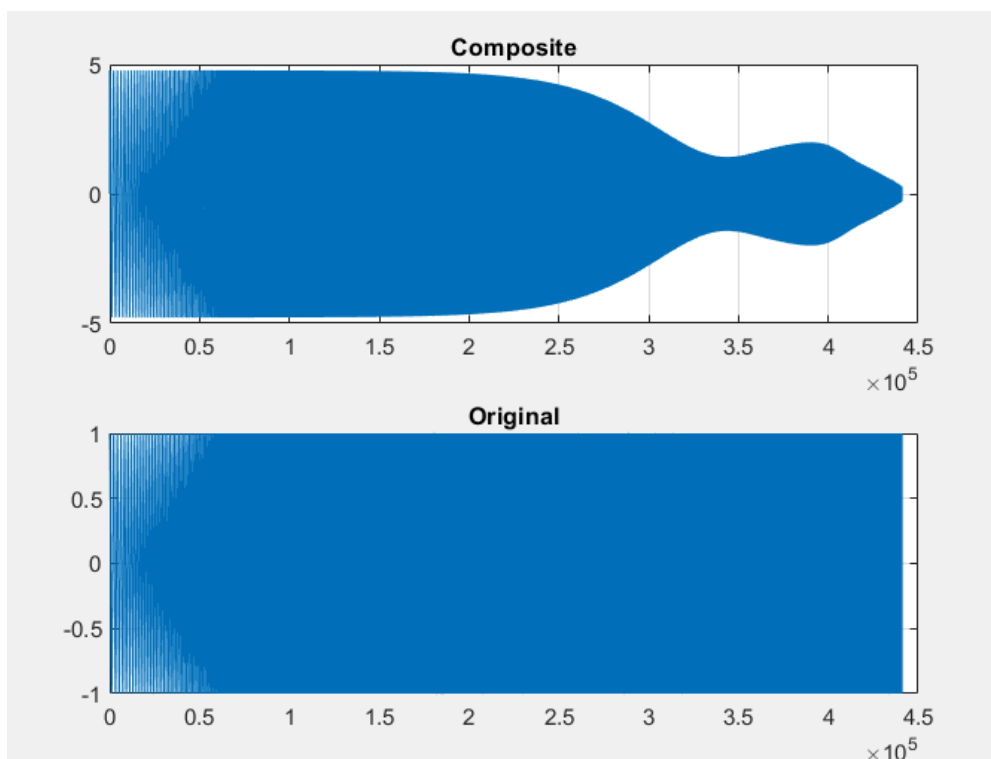
<b>Jomana Ehab</b>	<b>9178</b>
<b>Habiba Abdelhameed</b>	<b>8633</b>

# **FIR**

```
*** WELCOME TO AUDIO EQUALIZER ***
Gain for band 1 in dB: -6
Gain for band 2 in dB: 0
Gain for band 3 in dB: +3
Gain for band 4 in dB: 0
Gain for band 5 in dB: -3
Gain for band 6 in dB: 0
Gain for band 7 in dB: +6
Gain for band 8 in dB: 0
Gain for band 9 in dB: -6
Enter FIR filter order (default 25):
Enter output sample rate (Hz): 44100
Analysis data saved to filter_analysis.mat
Equalized audio saved to equalized_output.wav
*** THANK YOU ***
|
```

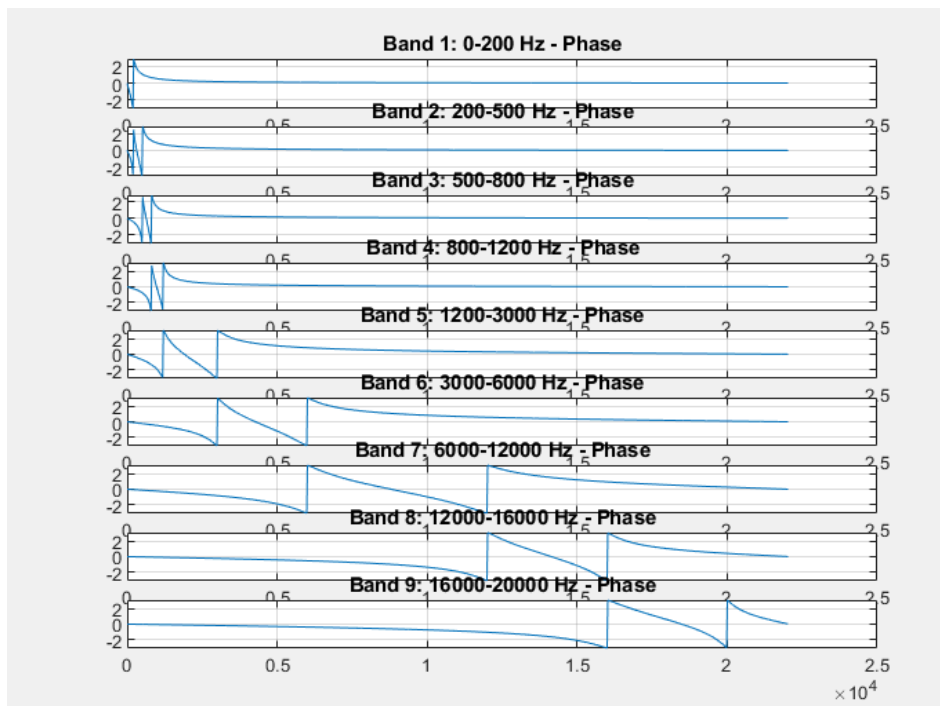
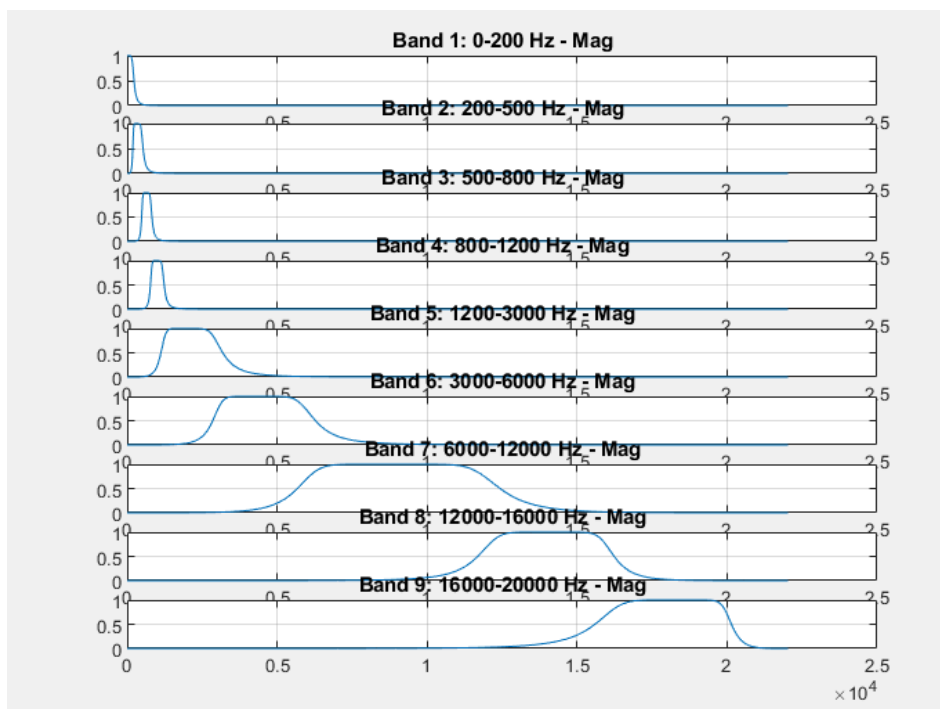


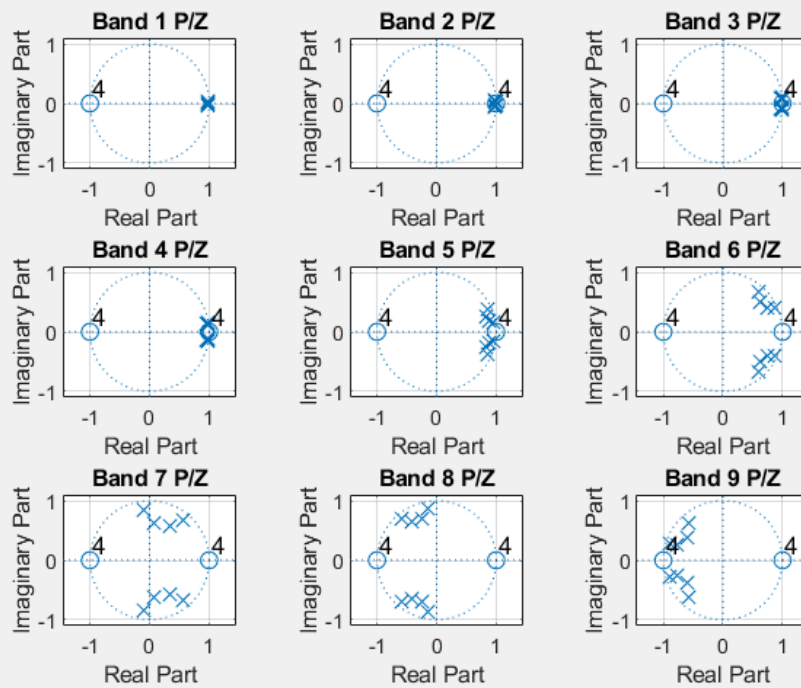
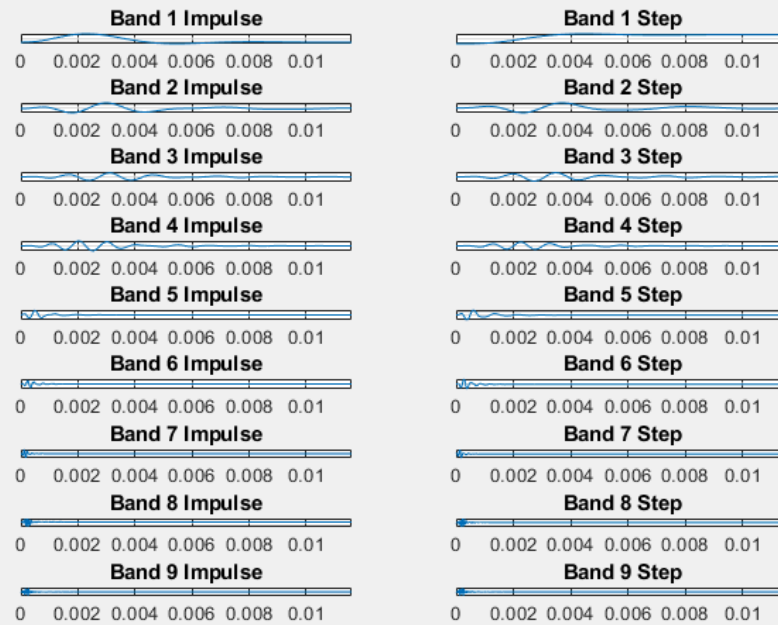




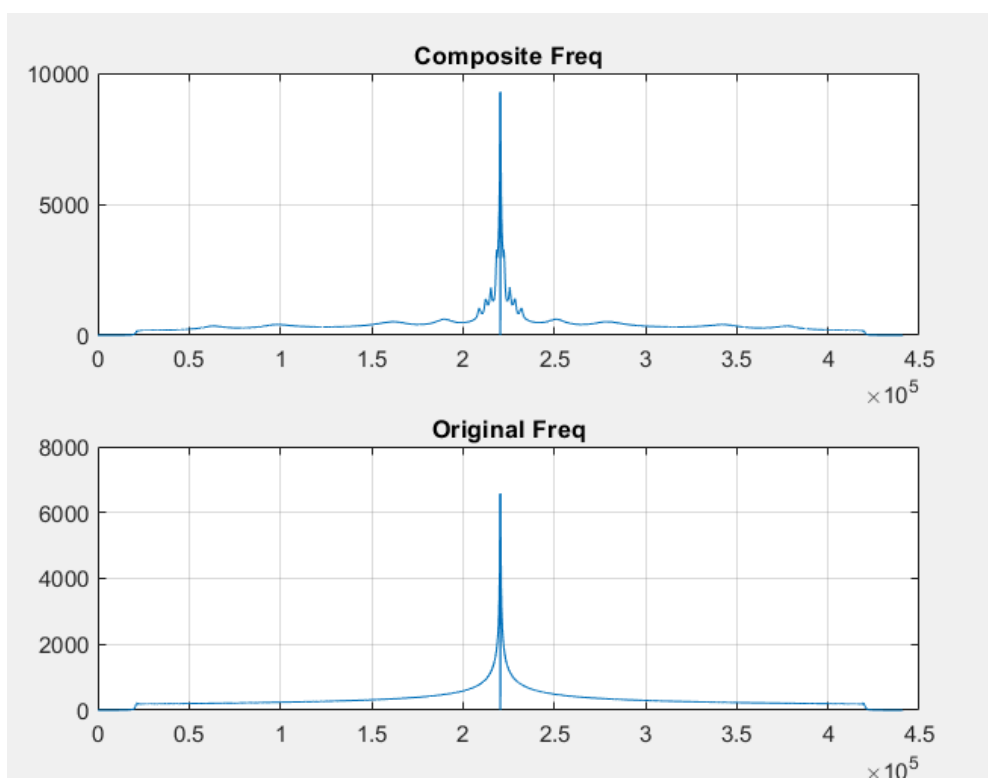
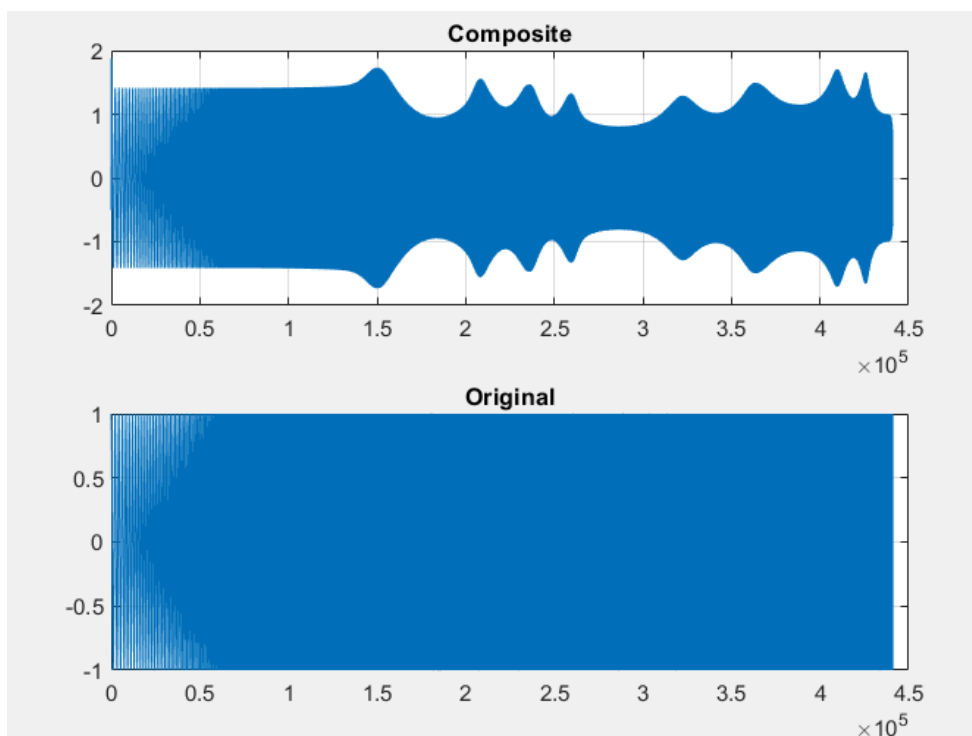
# **IIR**

```
*** WELCOME TO AUDIO EQUALIZER***  
Gain for band 1 in dB: 3  
Gain for band 2 in dB: 0  
Gain for band 3 in dB: 1  
Gain for band 4 in dB: 0  
Gain for band 5 in dB: -2  
Gain for band 6 in dB: 0  
Gain for band 7 in dB: 1  
Gain for band 8 in dB: 02  
Gain for band 9 in dB: 0  
Enter IIR filter order (default 4): 4  
Enter output sample rate (Hz): 44100  
Analysis data saved to filter_analysis.mat  
Equalized audio saved to equalized_output.wav  
*** THANK YOU ***
```









## *Sample rate is multiplied by four*

\*\*\* WELCOME TO AUDIO EQUALIZER\*\*\*

Gain for band 1 in dB: 3

Gain for band 2 in dB: 0

Gain for band 3 in dB: 1

Gain for band 4 in dB: 0

Gain for band 5 in dB: -2

Gain for band 6 in dB: 0

Gain for band 7 in dB: 1

Gain for band 8 in dB: 2

Gain for band 9 in dB: 0

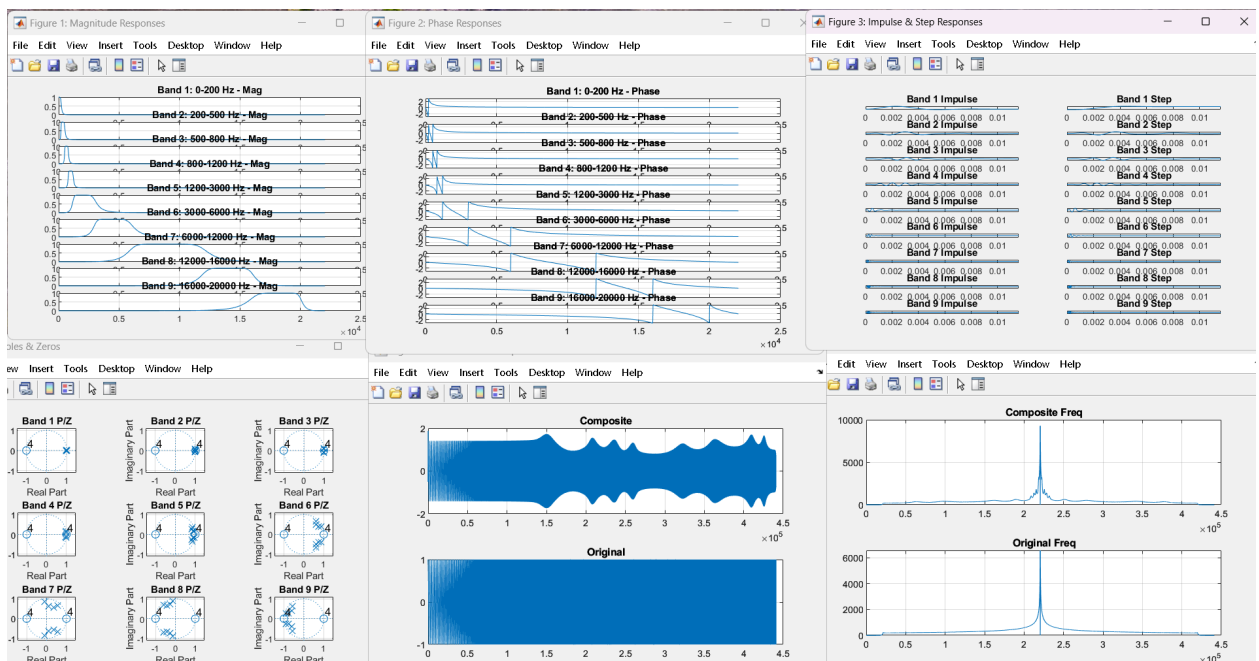
Enter IIR filter order (default 4):

Enter output sample rate (Hz): 44100

Analysis data saved to filter\_analysis.mat

Equalized audio saved to equalized\_output.wav

\*\*\* THANK YOU \*\*\*



## Decreasing it to half

\*\*\* WELCOME TO AUDIO EQUALIZER\*\*\*

Gain for band 1 in dB: 3

Gain for band 2 in dB: 0

Gain for band 3 in dB: 1

Gain for band 4 in dB: 0

Gain for band 5 in dB: -2

Gain for band 6 in dB: 0

Gain for band 7 in dB: 1

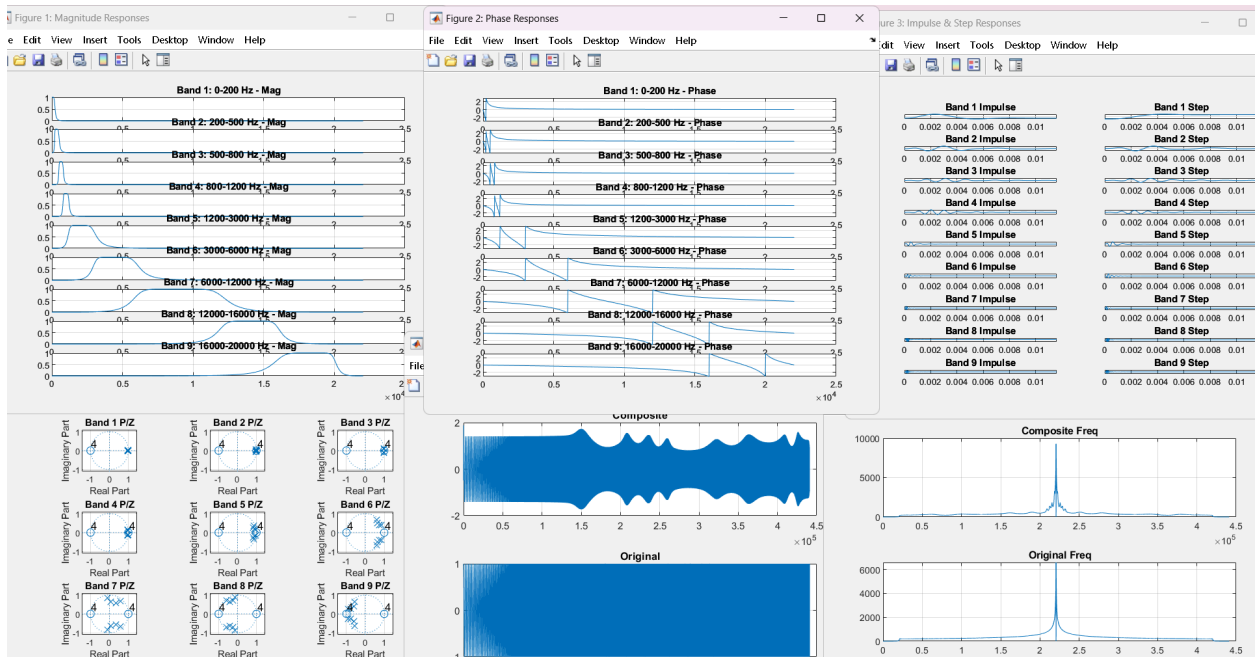
Gain for band 8 in dB: 0

Gain for band 9 in dB: 2

Enter IIR filter order (default 4):

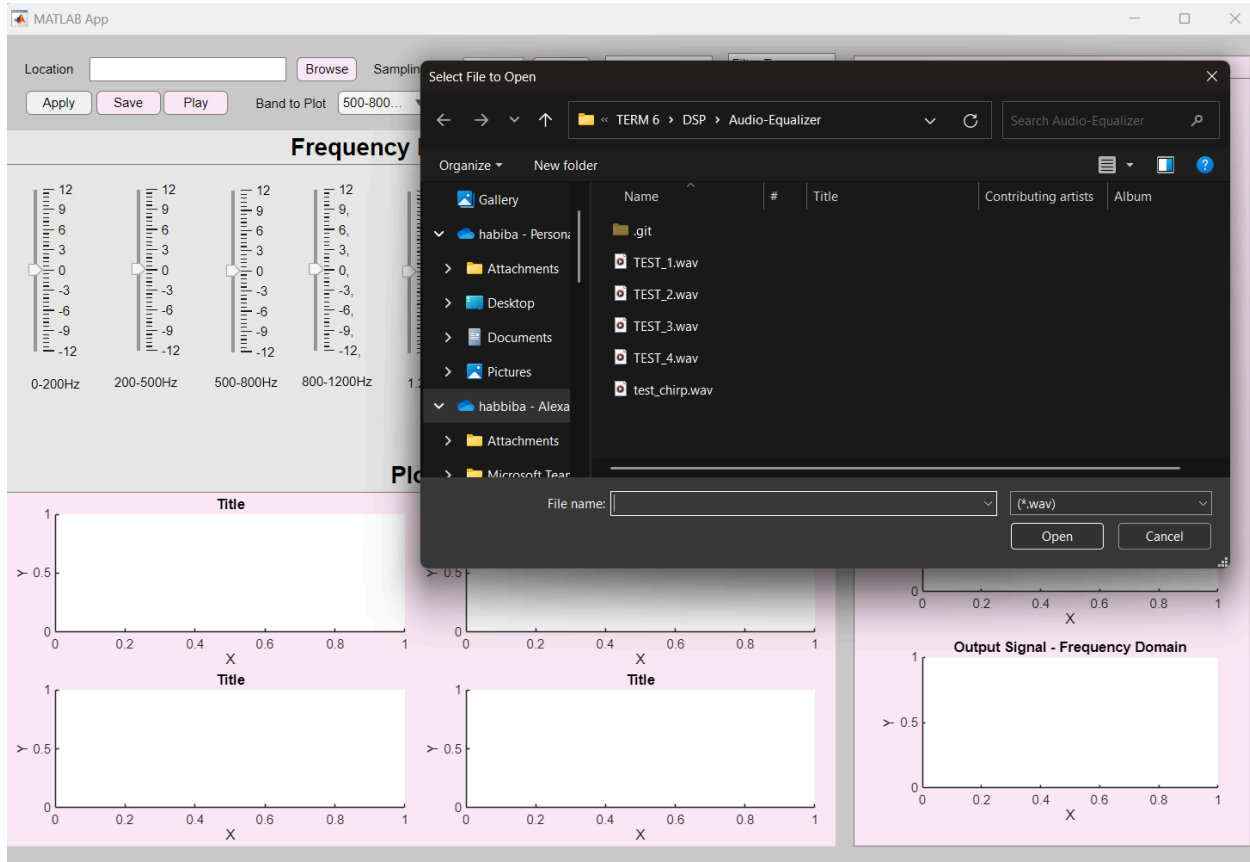
Enter output sample rate (Hz): 22050

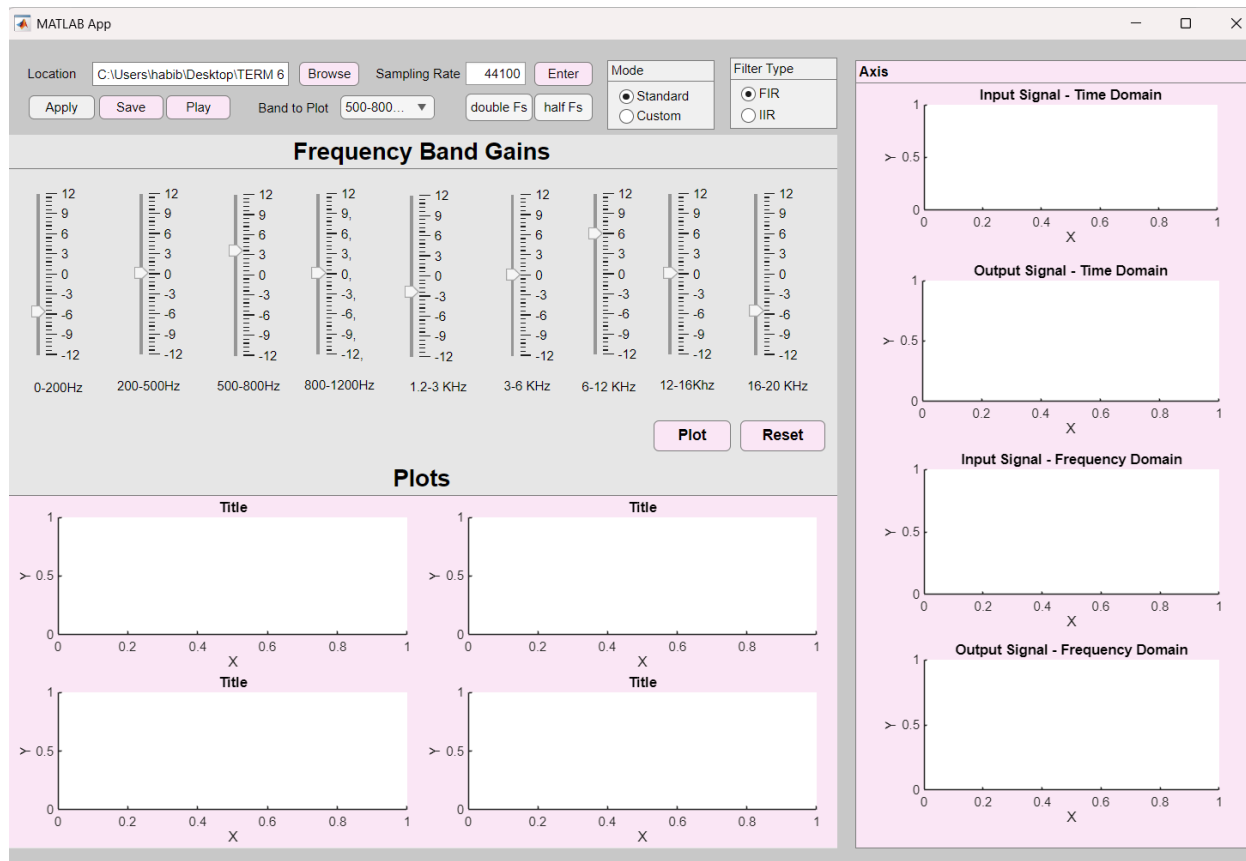
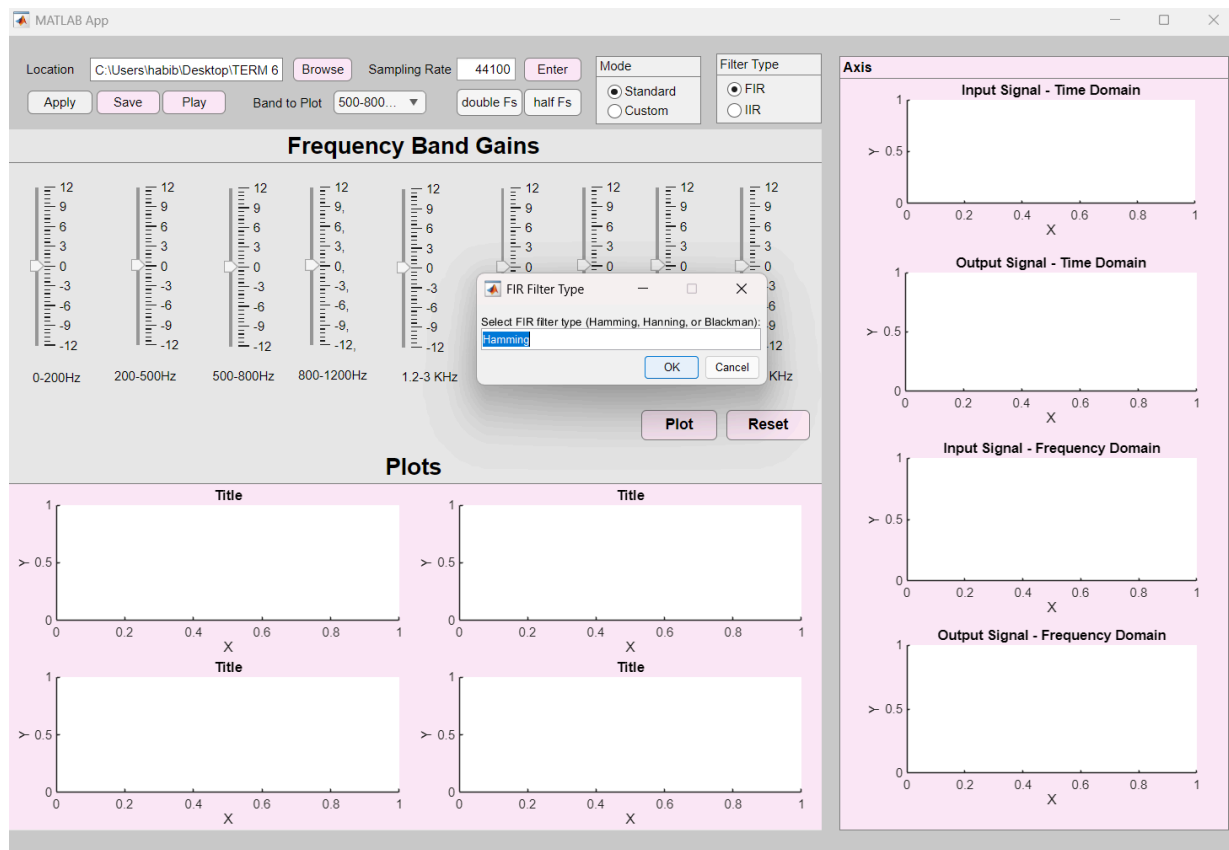
Analysis data saved to filter\_analysis.mat

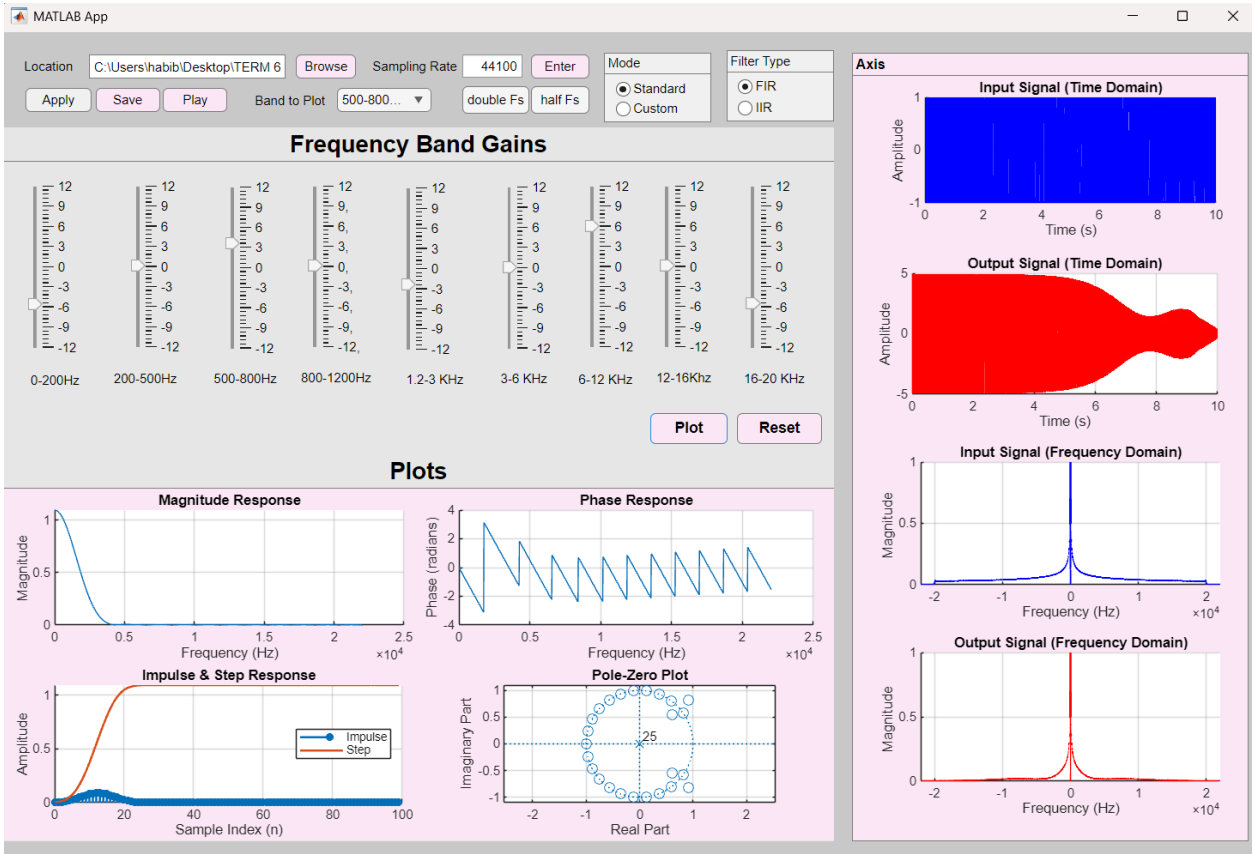
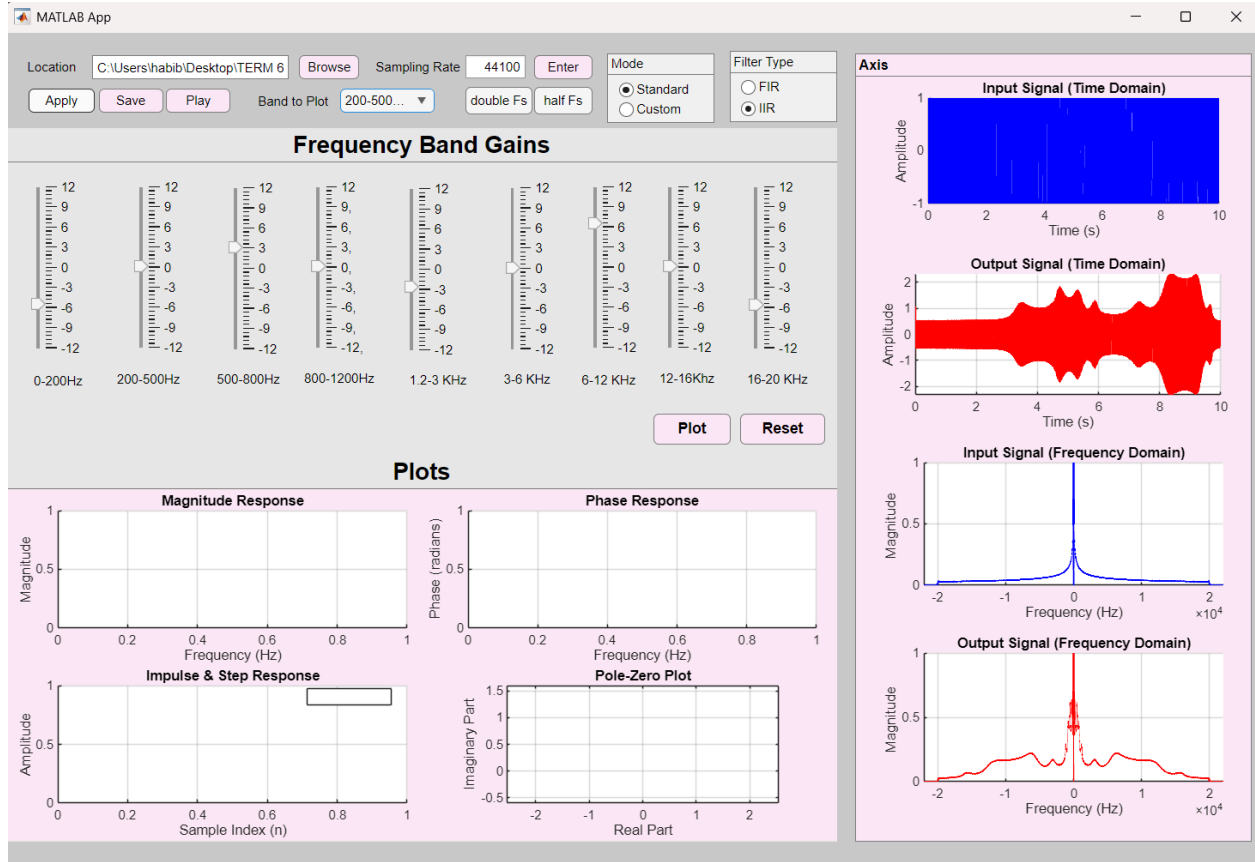


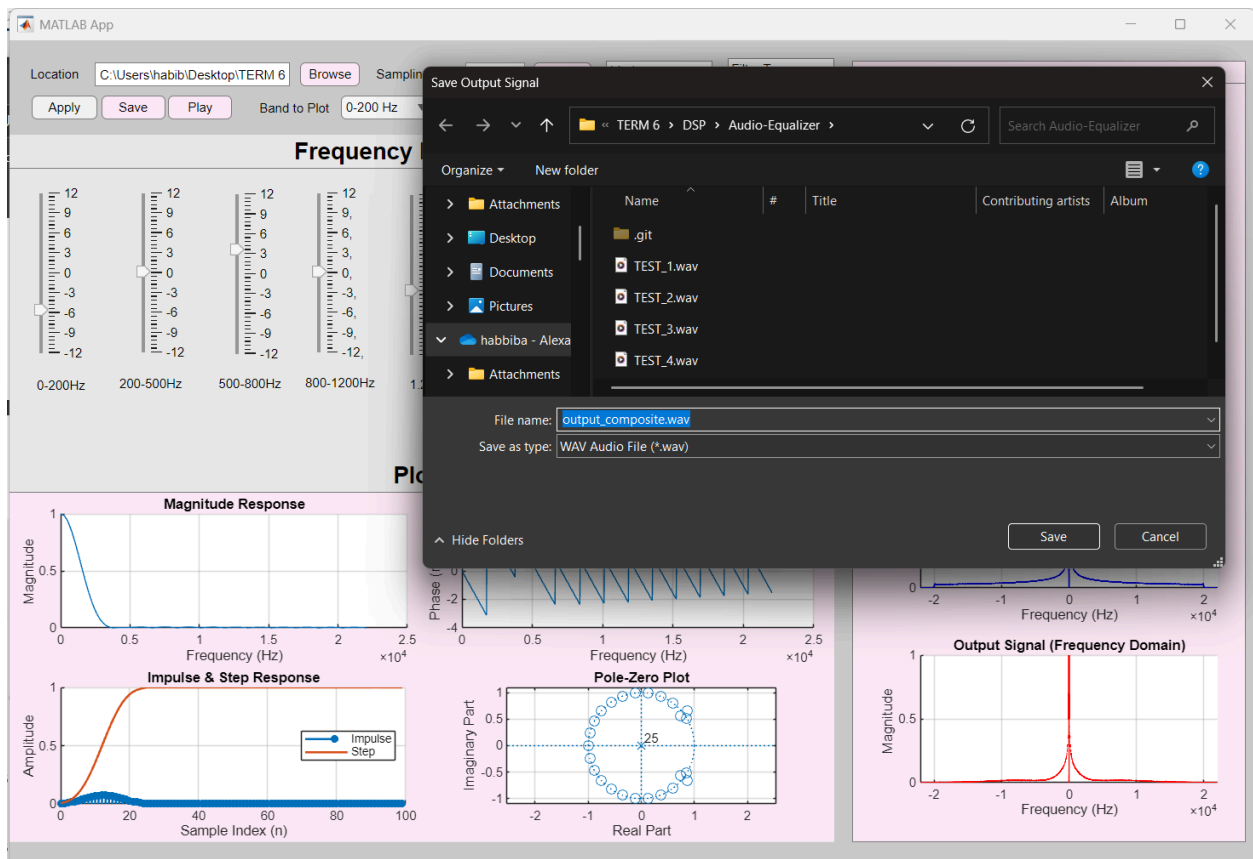
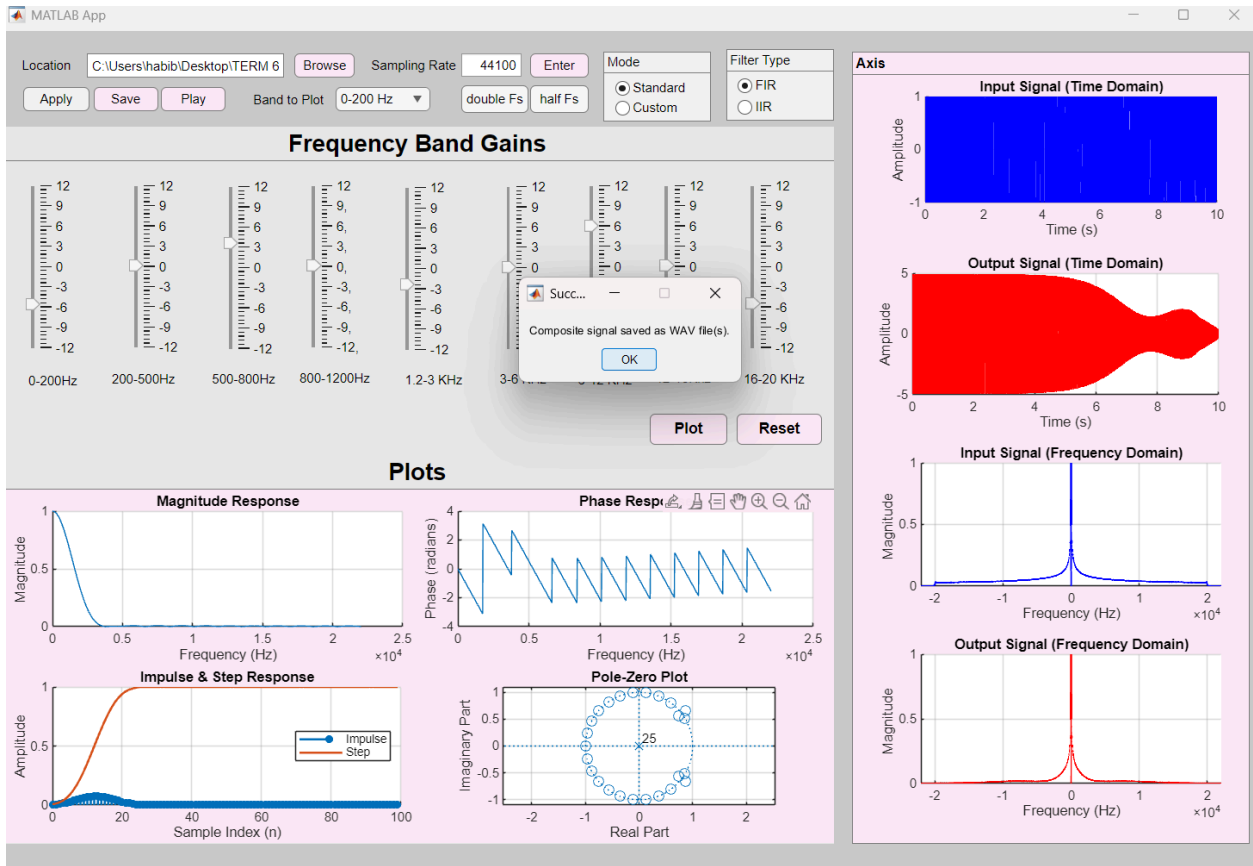
## *Audio Equalizer (GUI Interface)*

**FIR**

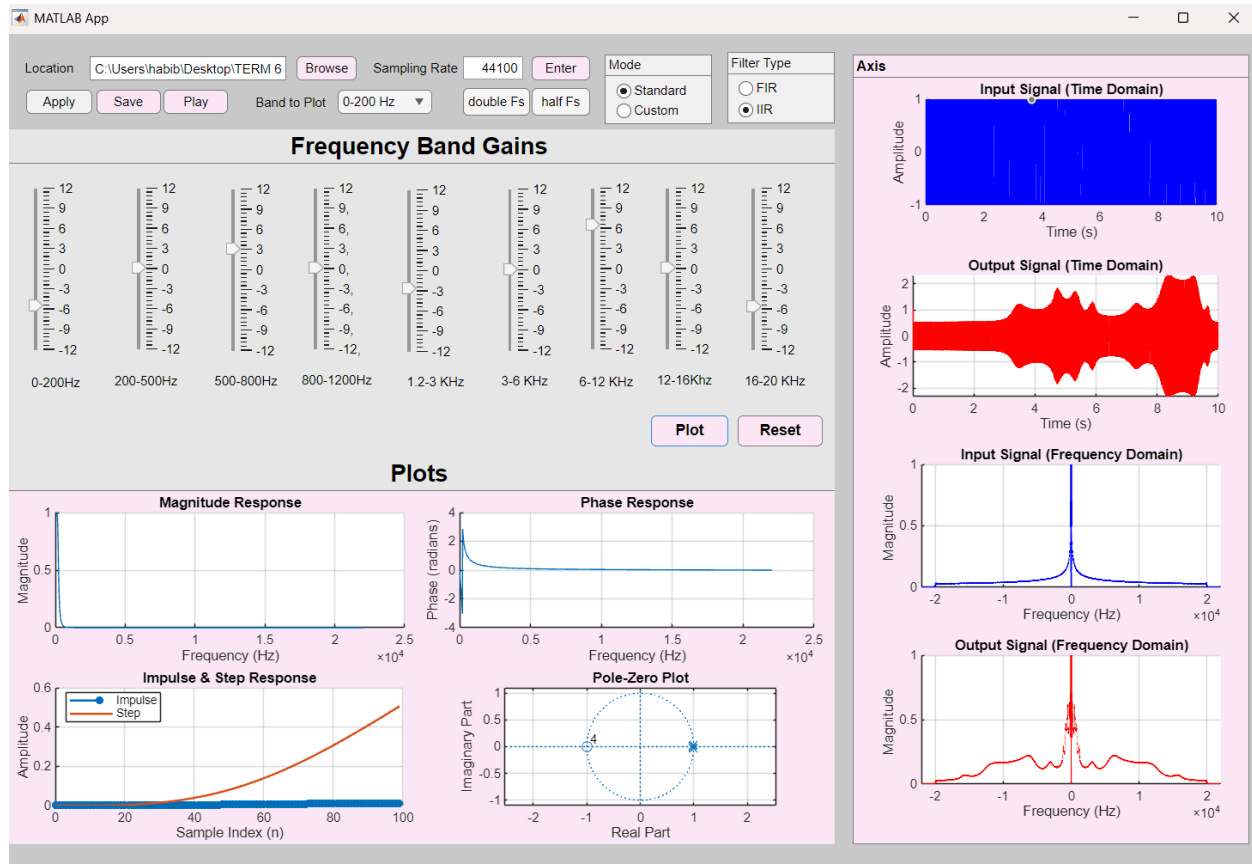




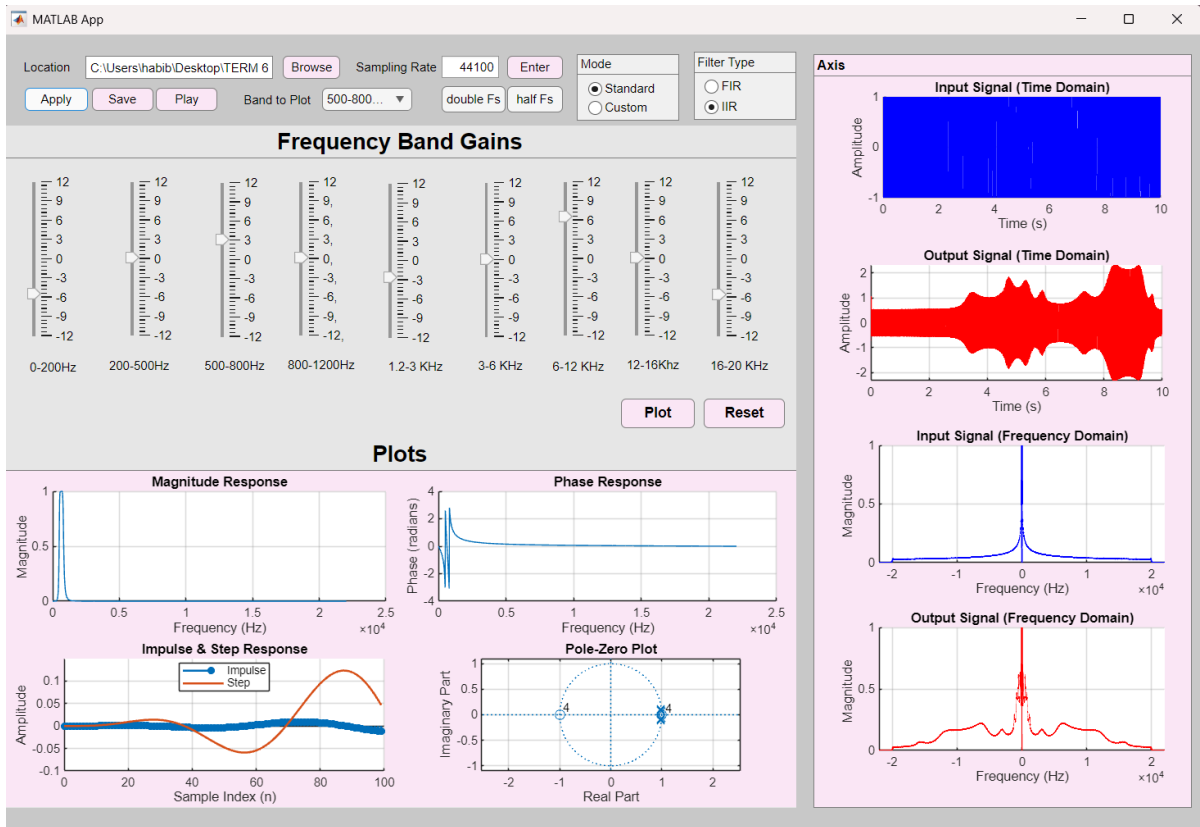
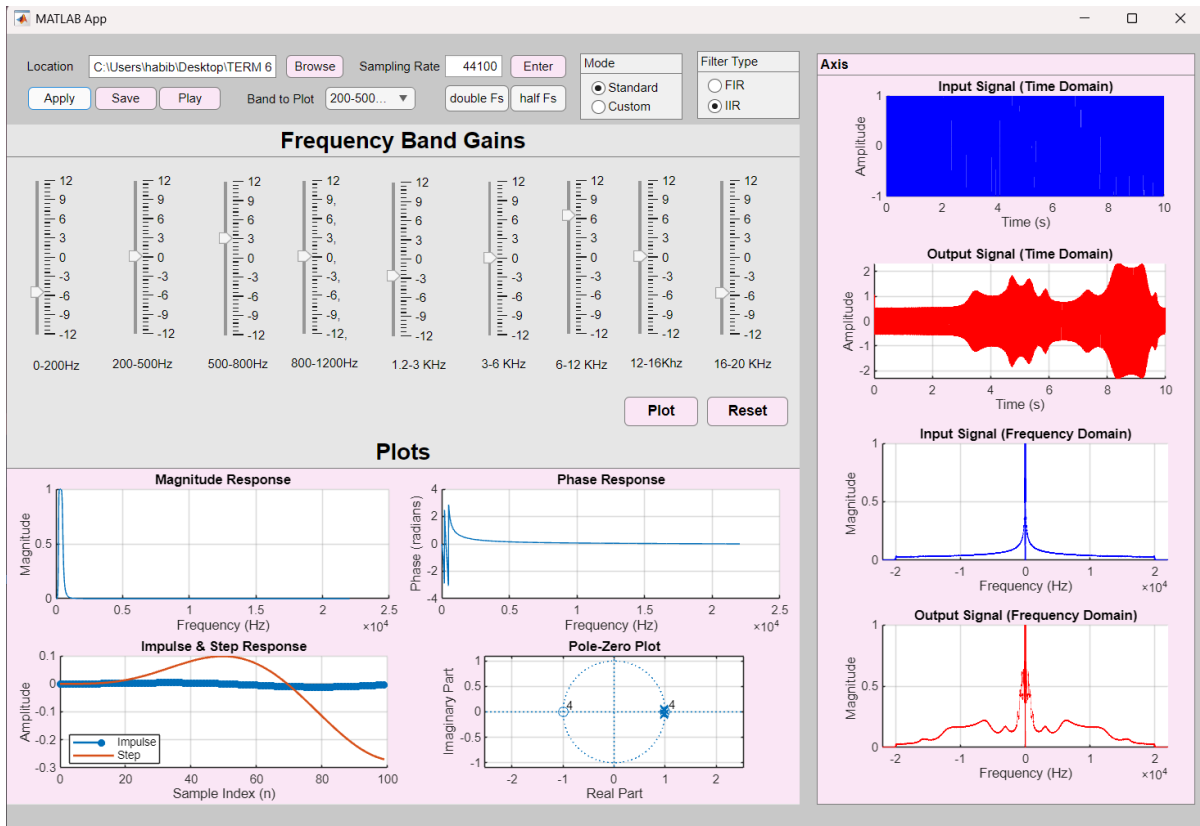




# IIR







## Decreasing to half

