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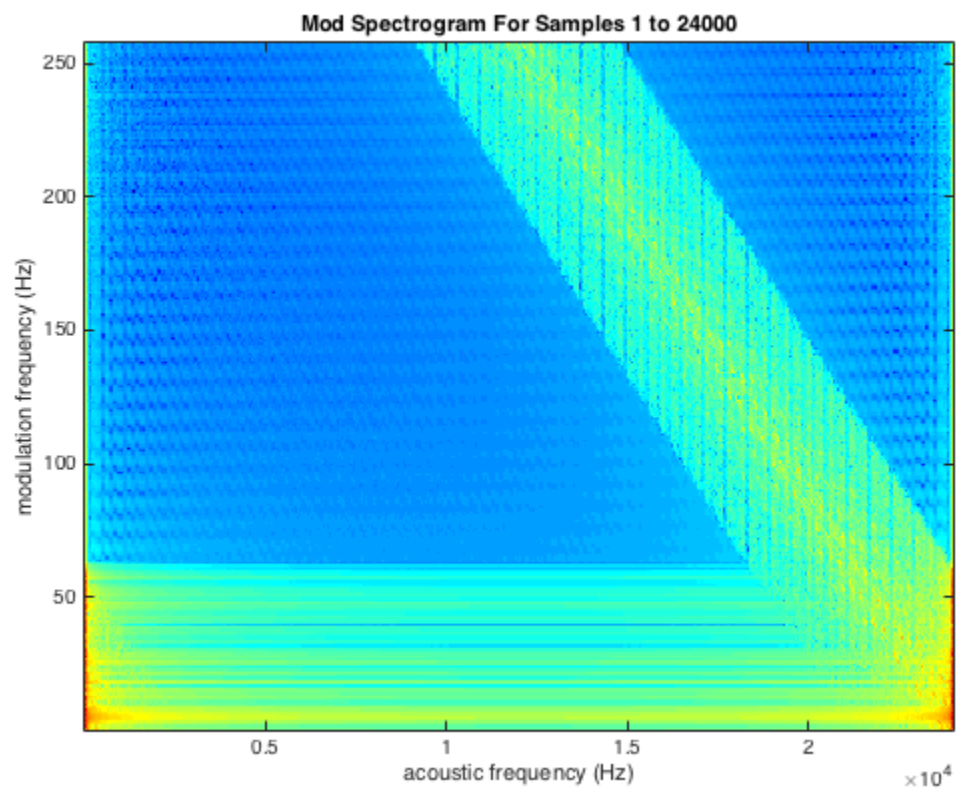
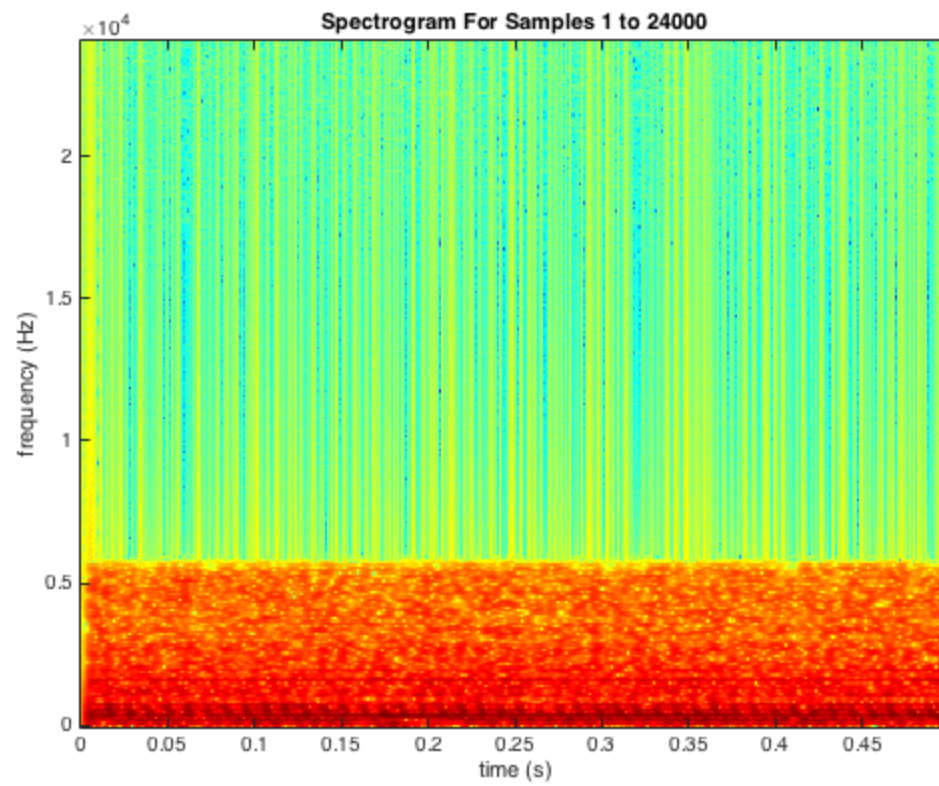
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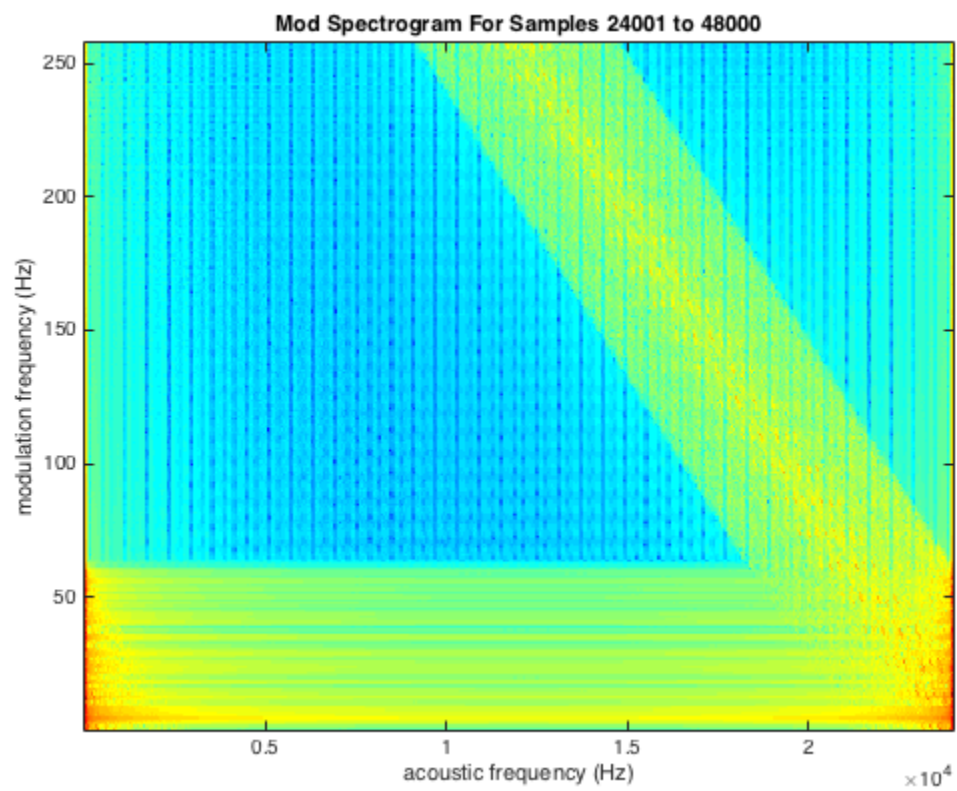
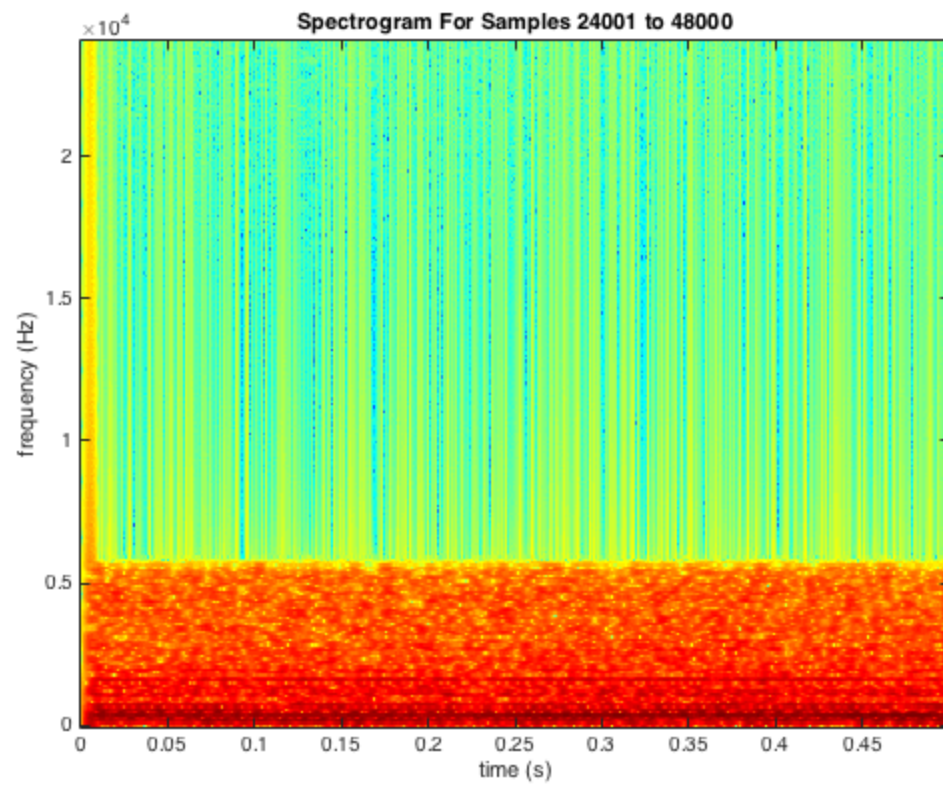
Import data

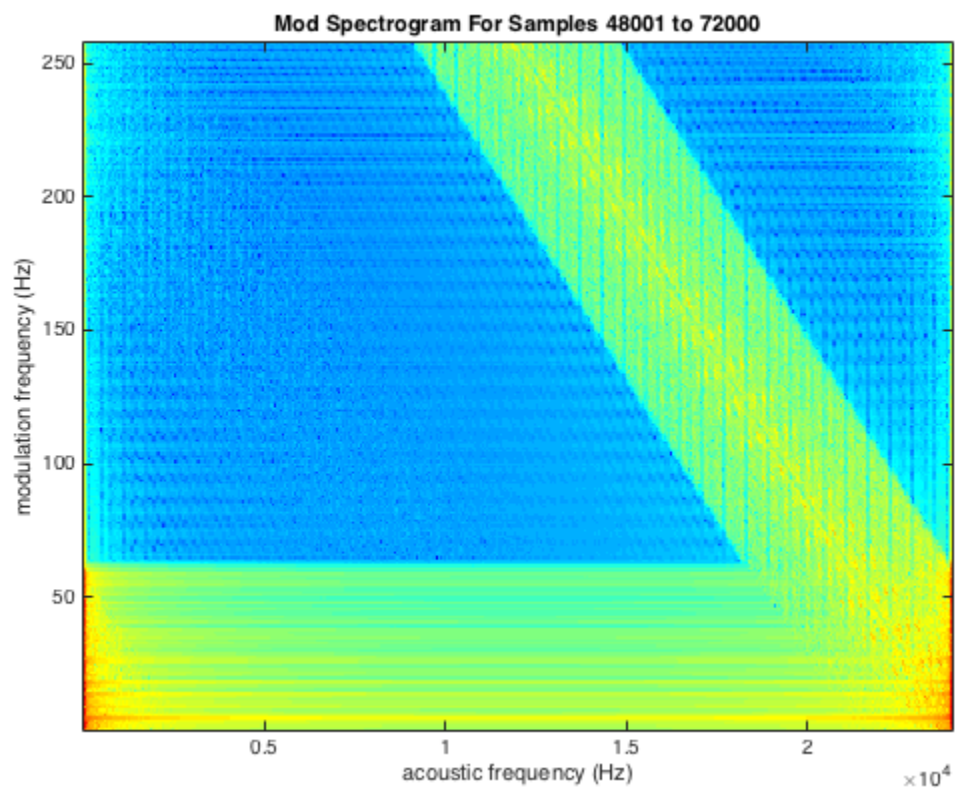
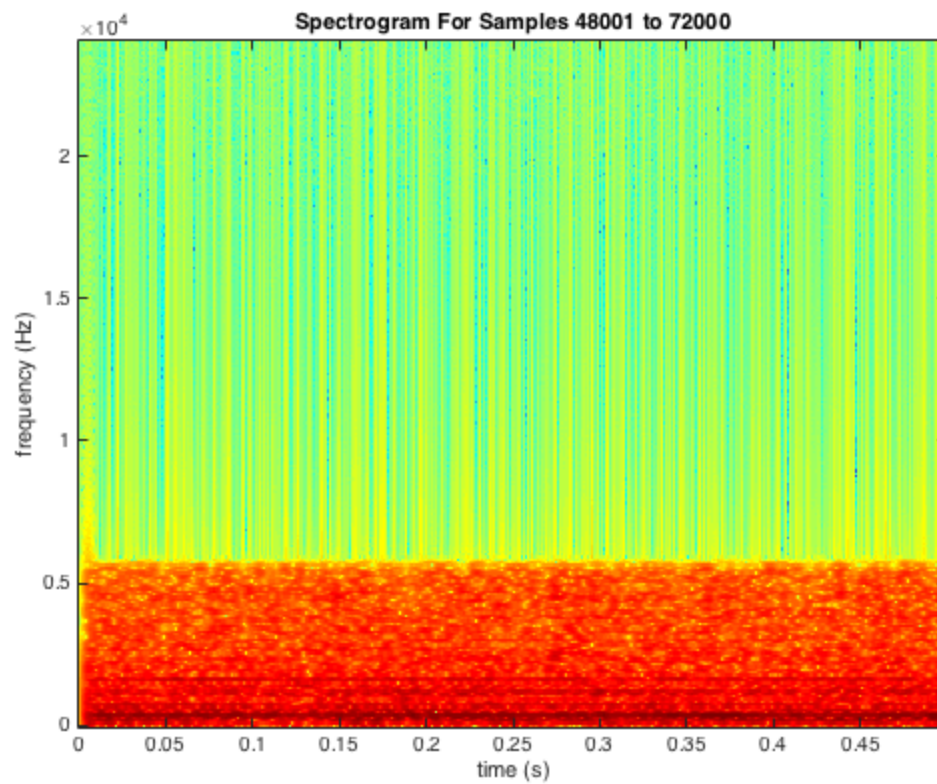
```
[x, fs] = audioread('resources/heli_and_boat_short/boat0_short.wav');  
x = mean(x,2);  
x = x.';
```

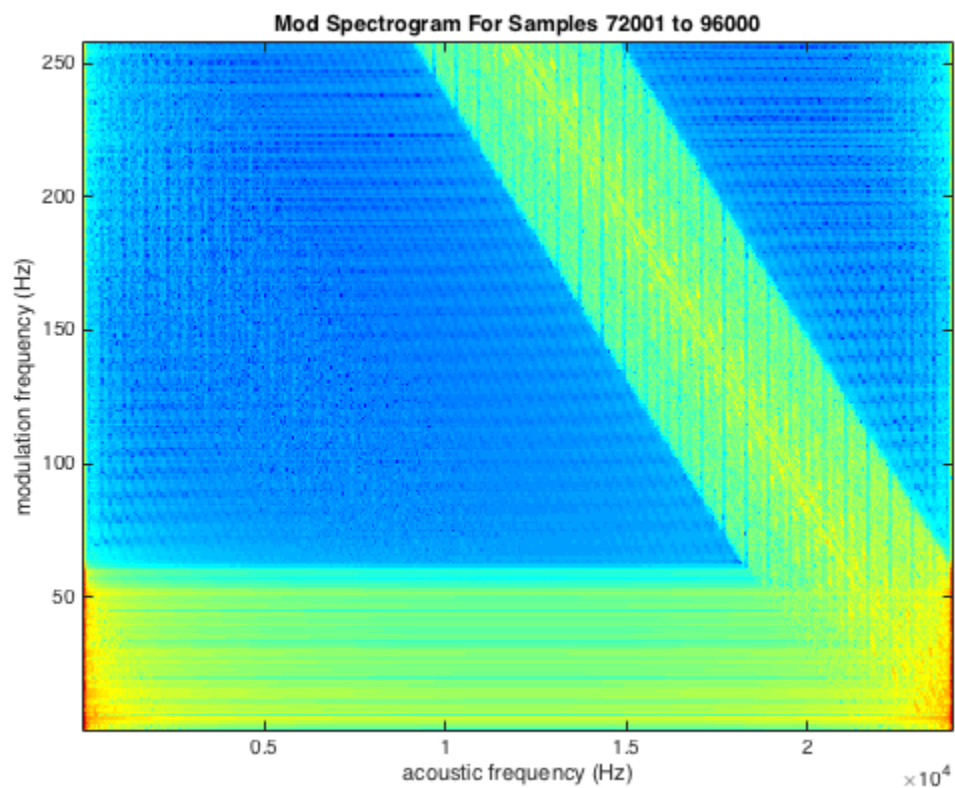
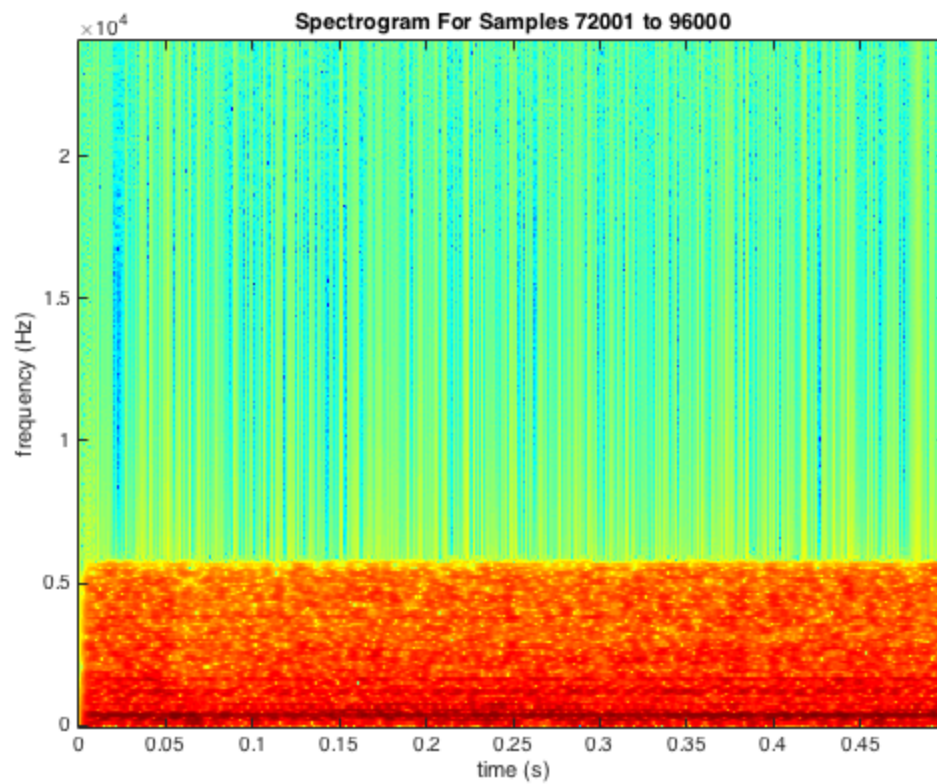
In loop

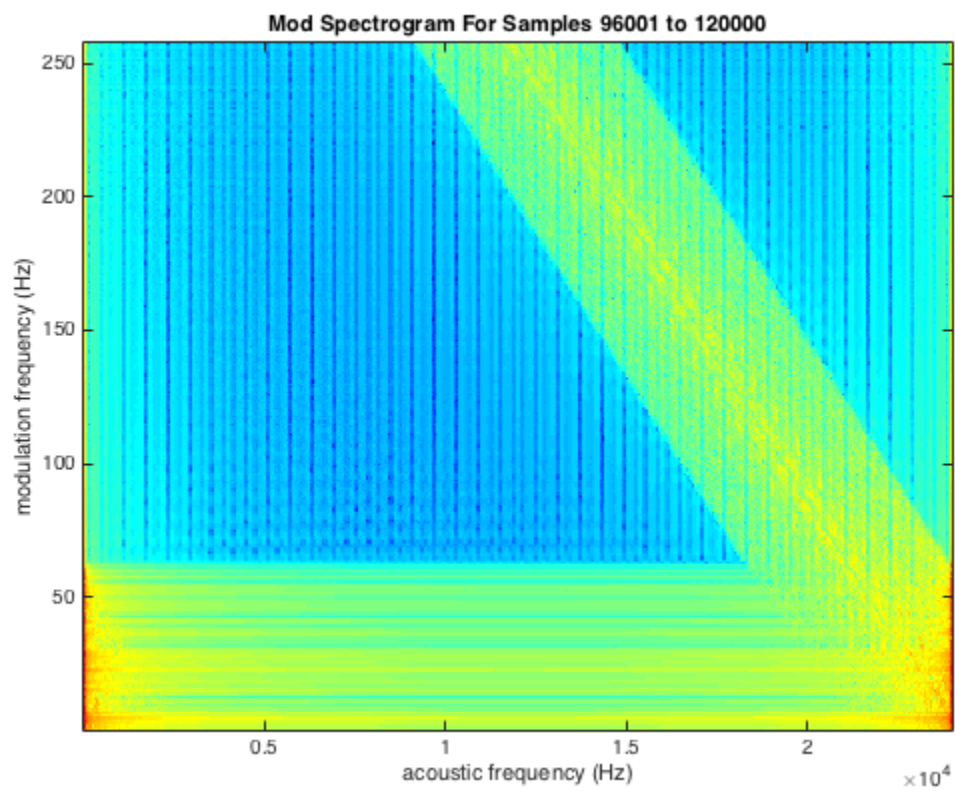
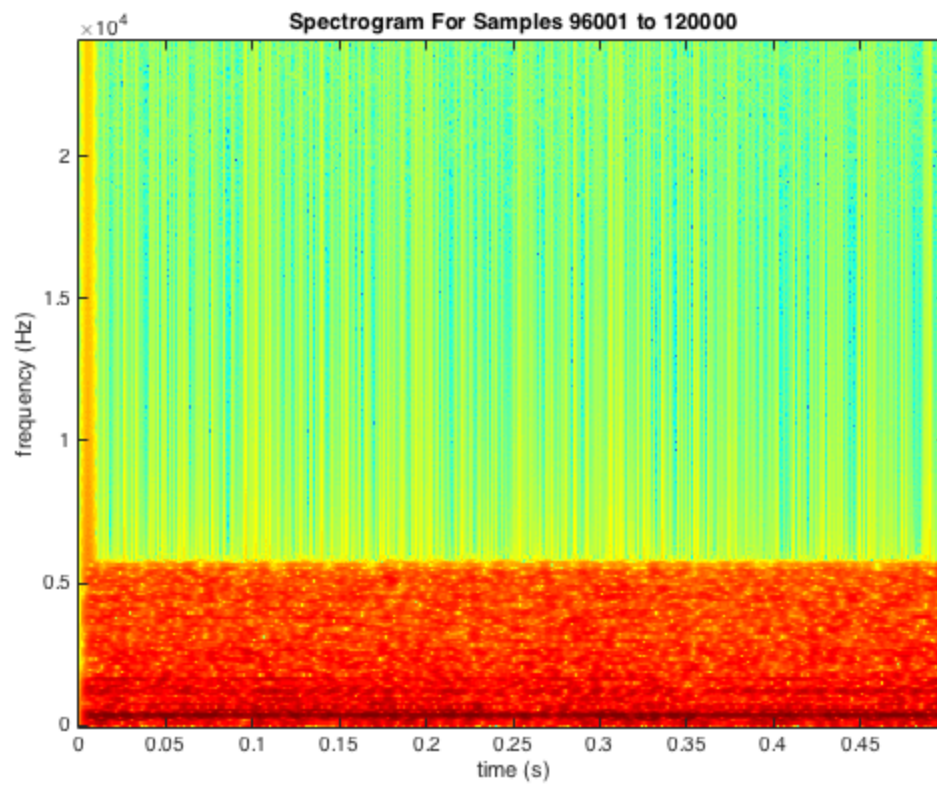
```
nsegments_in = 10; % select number of segments to process  
Nw = 512;  
segmentlen = fs/2;  
xlen = length(x);  
nsegments_total = floor(xlen/segmentlen);  
  
nsegments = min(nsegments_in,nsegments_total);  
  
start_pos = 1;  
  
for segmentind = 1:nsegments  
    end_pos = start_pos + segmentlen - 1;  
  
    x_segment = x(start_pos:end_pos);  
    modspec(x_segment, Nw, fs, start_pos,end_pos);  
    start_pos = start_pos + segmentlen;  
end  
  
% %% Perform filter bank analysis and plots modulation spectrum  
% start_pos = 800000;  
% count_frames = 80000;  
% x = x(start_pos:start_pos+count_frames);  
% x_len = length(x);  
% n = (0:x_len-1);  
%  
% Nw = 512; %2048 with overlap of 1/4  
% N = Nw;  
% spectrumFBS = FBS_Analysis(x,fs,Nw, 0, 0);  
%  
% modspecgram = fft(spectrumFBS,size(spectrumFBS,2),2);  
% msg_half = modspecgram(1:ceil(size(spectrumFBS,1)/2) + 1,:); %0 to  
256  
% figure;  
% imagesc(20*log10(abs(msg_half)));
```

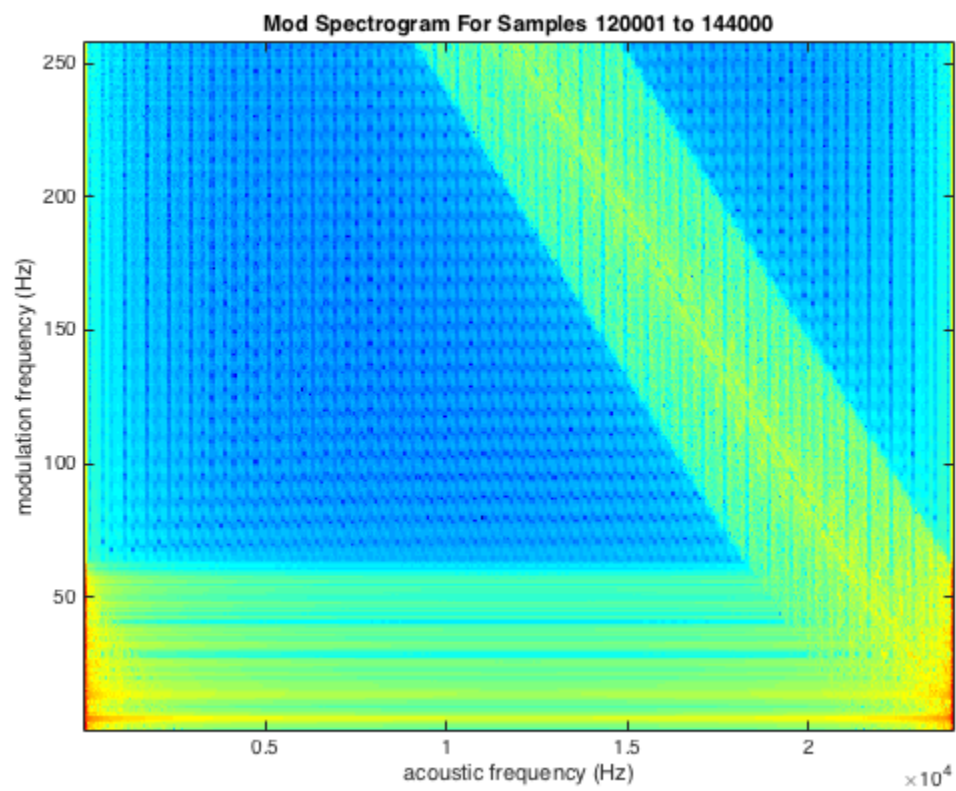
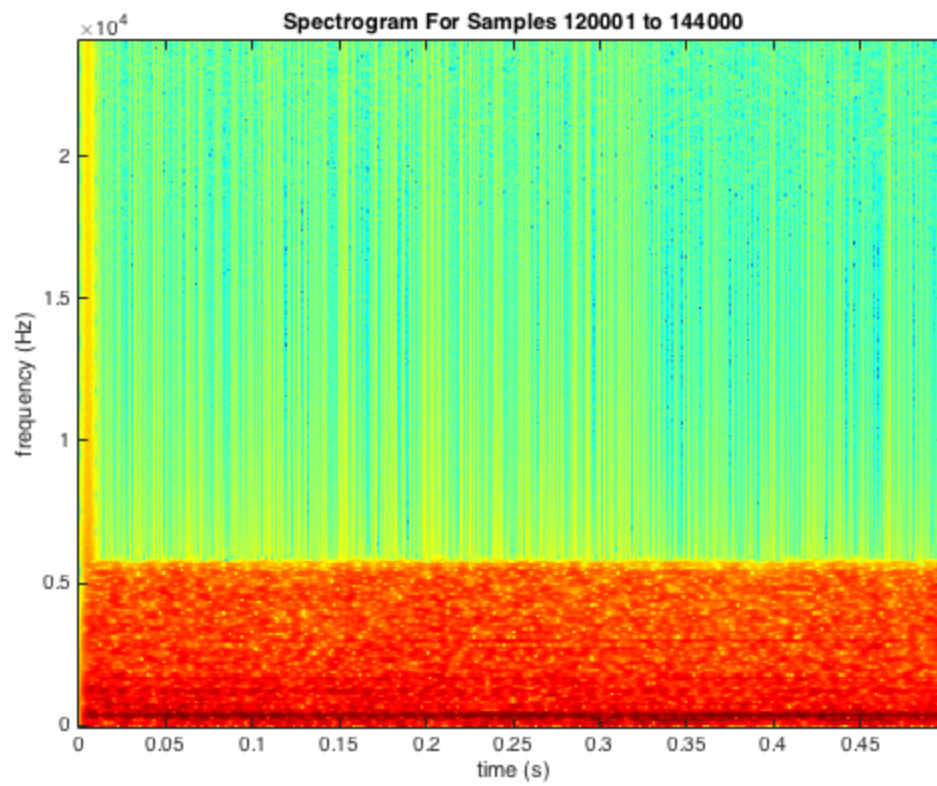


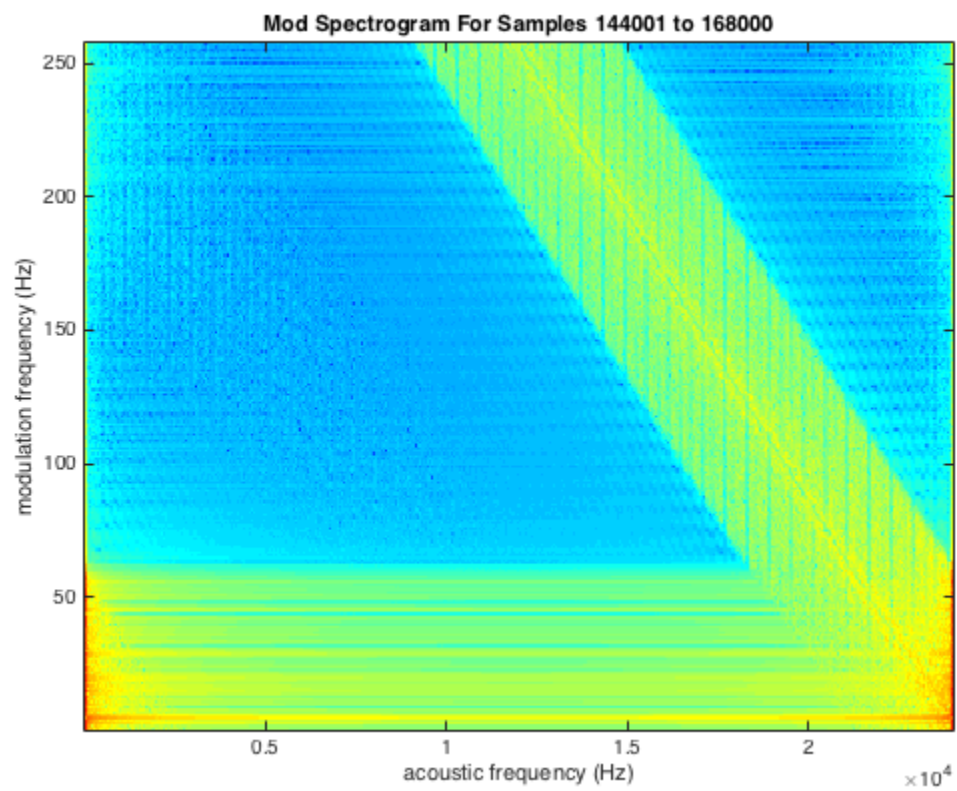
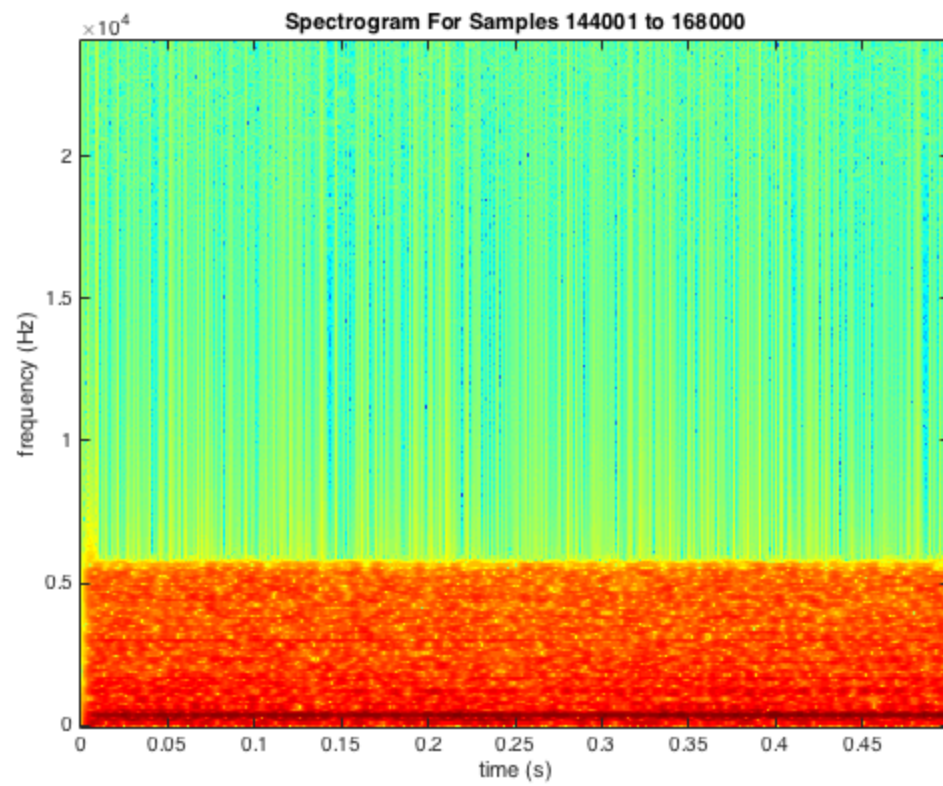


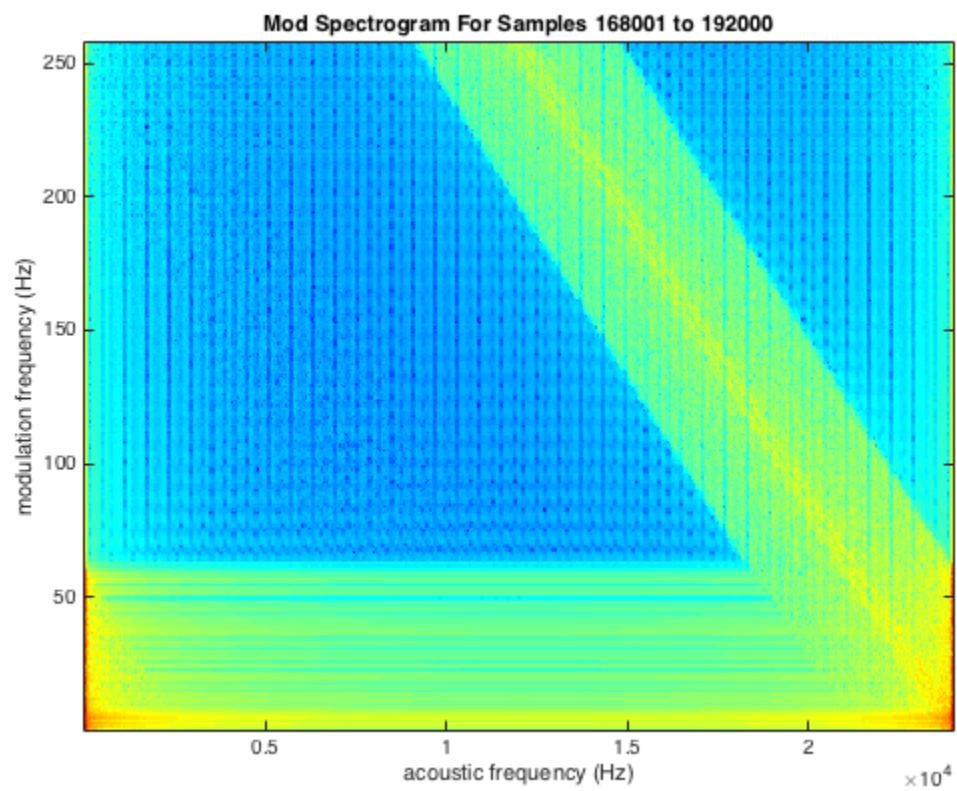
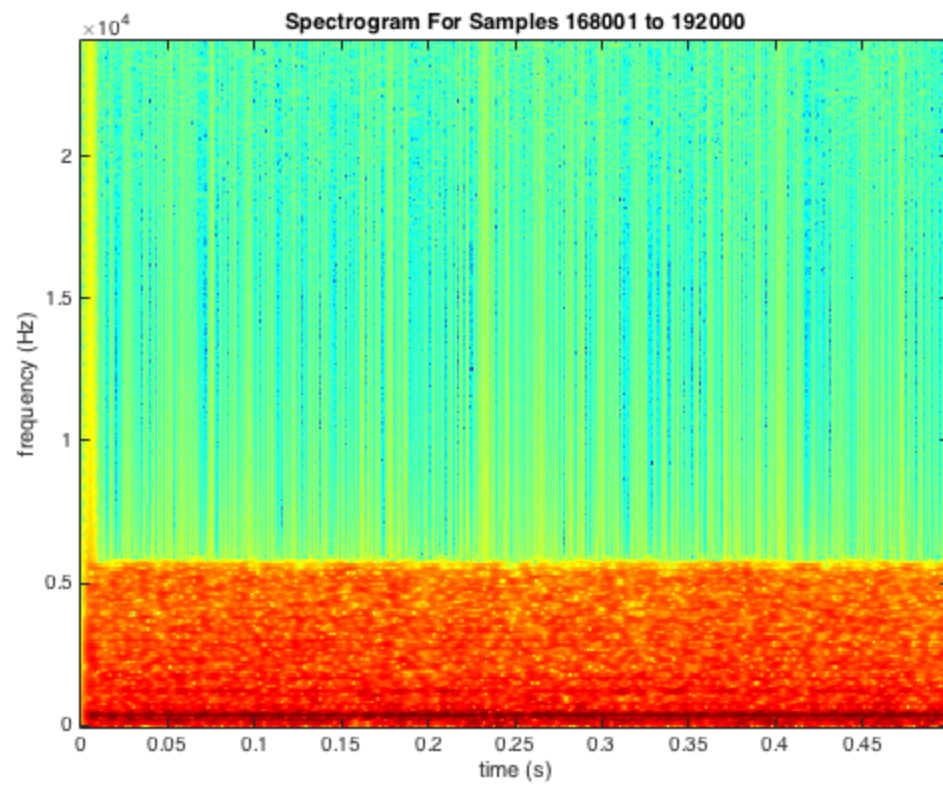


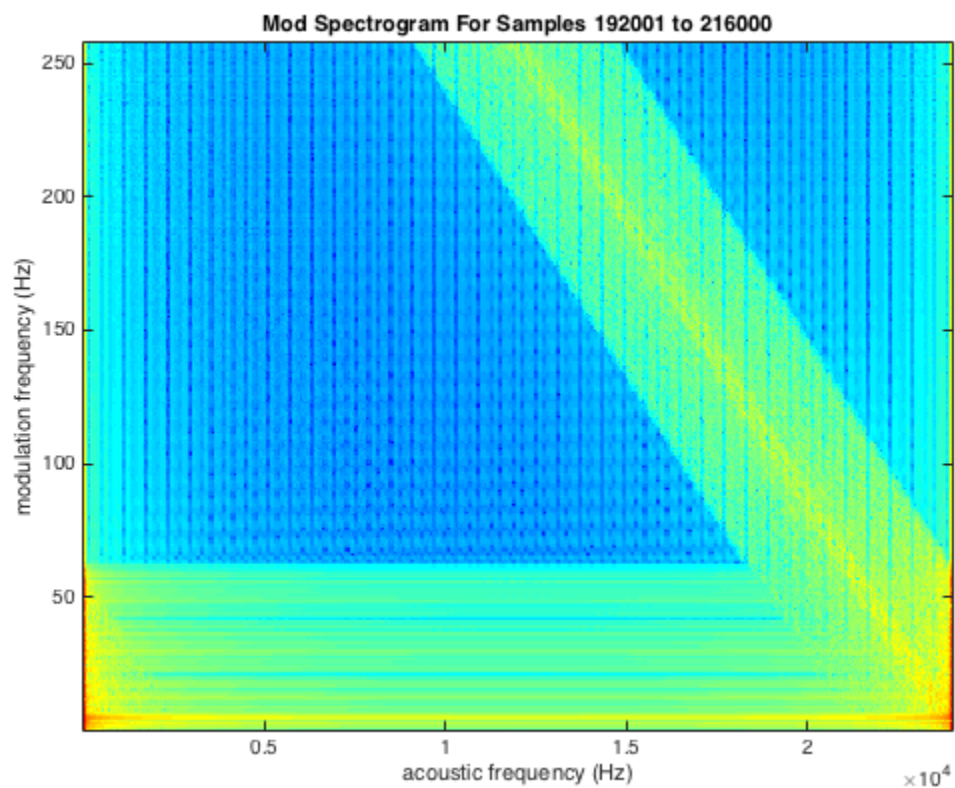
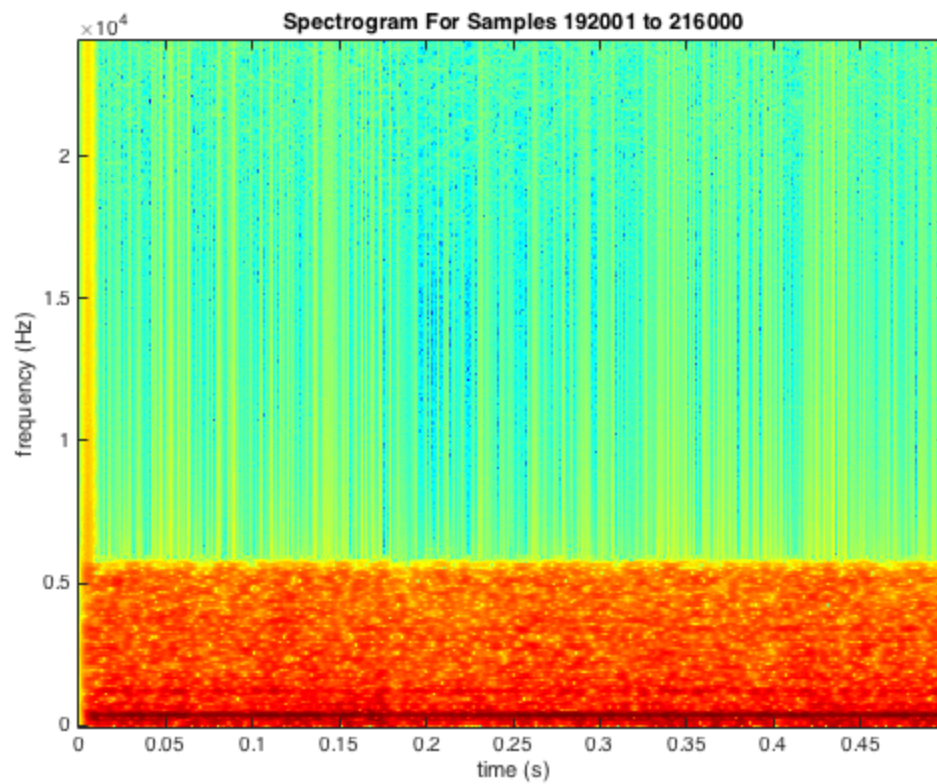


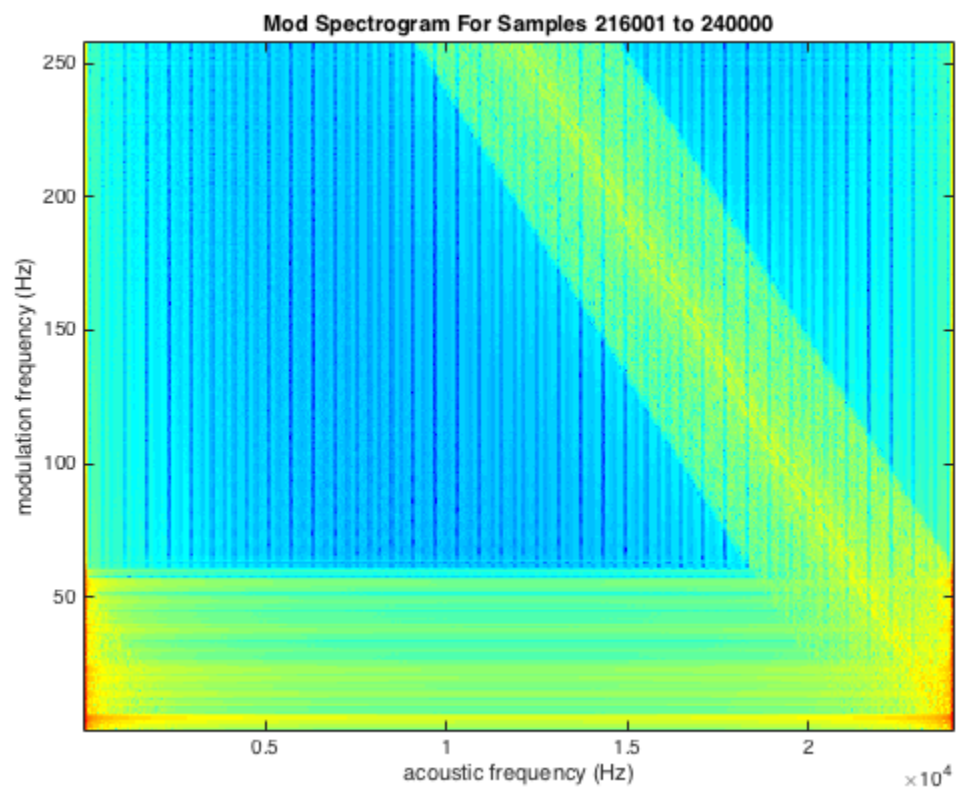
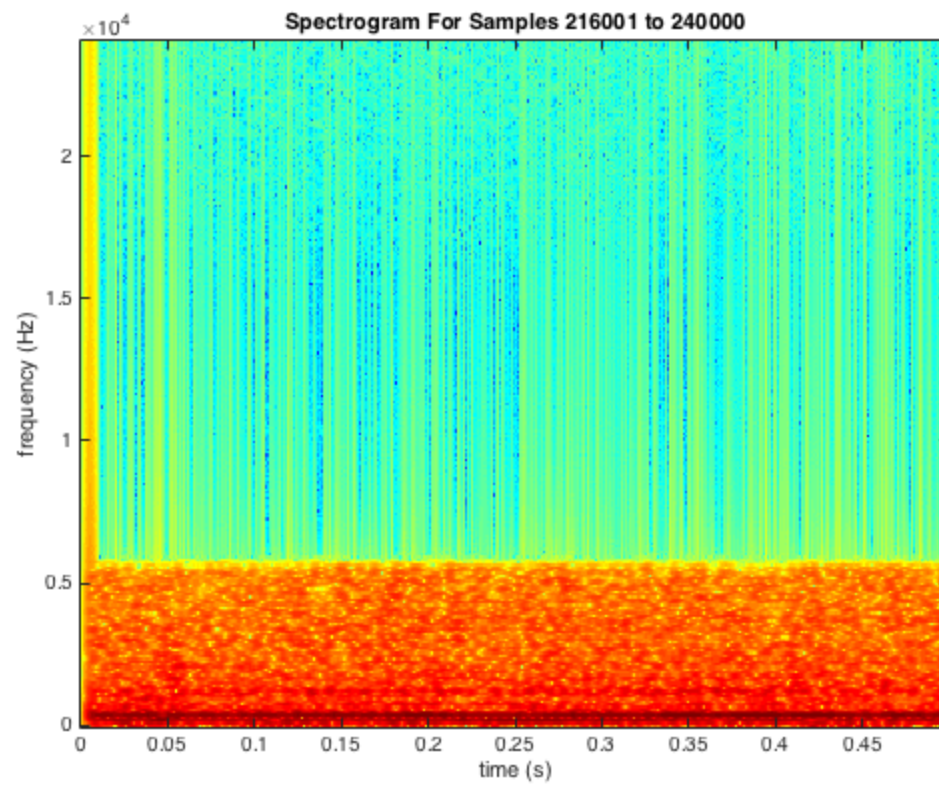












This part does OLA, which doesn't work?

```
% Perform STFT hop_size = Nw/2; %spectrum = stft(x,2048,256,0,hann(2048)); spectrum =  
stft(x,Nw,hop_size,0,hamming(Nw)); music = abs(spectrum); sphase = spectrum./(abs(spectrum)+eps);  
% Finally, plot the positive half of the result figure; f = linspace(0,1,N)*(fs/2); % actual frequency axis in  
Hz t = n / fs; % actual time axis in seconds imagesc(t,f,20*log(music)); axis xy; colormap(jet); xlabel('time  
(s)', 'FontName', 'Arial', 'FontSize', 15); ylabel('frequency (Hz)', 'FontName', 'Arial', 'FontSize', 15);  
title('STFT', 'FontName', 'Arial', 'FontSize', 15);
```

```
%% Perform mod specgram modspecgram = fft(spectrum,size(spectrum,2),2); figure;  
imagesc(20*log10(abs(modspecgram)));
```

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