APPENDIX C

compwind.m

```
%
% FUNCTION compwind
%
% Display the sound before windowing and after windowing
%

function r = compwind(s, fs)
  l = length(s);
  m = 100;
  n = 256;

  nbFrame = floor((l - n) / m ) + 1;

%
% Create a matrix M containg all the frames
%
  for i = 1:n
    for j = 1:nbFrame
       M(i, j) = s(((j - 1) * m) + i);
    end
 end

%
% Matrix M created. Now apply HAMMING window and store in matrix N. Column
vectors of N are
% the original frame vectors transformed by the Hamming window filter
%
  h = hamming(n);
  N = diag(h) * M;

%
% Now plot the window, without window, and with window
%


%
% Plot the Hamming window
%
t = (0:n-1);
subplot(3,1,1);
plot(t,h);
title('Hamming Window');
xlabel('Samples');
ylabel('Amplitude');

%
% Plot the sound without windowing
%
```

```
subplot(3,1,2);
plot(t,M);
title('Sound frames before windowing');
xlabel('Samples');
ylabel('Amplitude');

%
% Plot the sound with windowing
%
subplot(3,1,3);
plot(t,N);
title('Sound frames after windowing');
xlabel('Samples');
ylabel('Amplitude');

r=1;
% Plot the Hamming window
%
t = (0:n-1);
subplot(3,1,1);
plot(t,h);
title('Hamming Window');
xlabel('Samples');
ylabel('Amplitude');

%
% Plot the sound without windowing
%
subplot(3,1,2);
plot(t,M);
title('Sound frames before windowing');
xlabel('Samples');
ylabel('Amplitude');

%
% Plot the sound with windowing
%
subplot(3,1,3);
plot(t,N);
title('Sound frames after windowing');
xlabel('Samples');
ylabel('Amplitude');

r=1;
```