APPENDIX E

Disteu.m

```
%
% Euclidean distances between columns of two matrices
%
function d = disteu(x, y)
[M, N] = size(x);
[M2, P] = size(y);

if (M ~= M2)
  error('Matrix dimensions do not match...');
end

d = zeros(N, P);

for ii=1:N
  for jj = 1:P
      d(ii,jj) = sum((x(:,ii)-y(:,jj)).^2).^0.5;
  end
end
```

zero.m

```
function Z = zerovect(vector)
% this function chops off the first 300 samples of a signal to remove
% the microphone turn on effect and centers the signal on zero, essentially
% removing any DC offset

Z = vector(300:end);

[A,B] = size(Z);

offset = mean(Z);

Z = Z - offset * ones(A,B);
```