

HOMEWORK 3

Multiresolution Decomposition

Due: February 4, 2002

- (1) Go to Matlab and type “wavemenu”.
- (2) Double click on Wavelet 1-D.
- (3) File - Demo Analysis - Noisy Blocks.
- (4) Wavelet: Haar. Level: 5. Display Mode: Full Decomposition. Analyze
 - (i) Observe the 5 detail coefficients and the approximation coefficient at level 5.
- (5) Display Mode: Tree Mode.
 - (i) Observe the decomposition tree. (That is how all 'standard' wavelet decompositions take place.) Observe also the level 5 *reconstruction*.
- (6) Display Mode: Separate Mode.
 - (i) Observe all the detail and approximation coefficients at all the levels.
- (7) Repeat, using Wavelet: db 5. Level 5.
- (6) Hand in one page of figures and one page of commentary on wavelet decomposition and reconstruction. Also comparison using Haar and db5.