

Notes for Final Exam

1. Sample-and-hold process for PAM
2. Output SNR for quantizer, in particular a non-full load one
3. PSD of line codes
4. Delta modulation and delta-sigma modulation
5. Correlative level coding
6. Noise enhancement for zero-forcing equalizer
7. The optimum linear receiver. Can we prove the optimum linear receiver directly from the frequency domain aspect? For example, it can be shown that

$$E[\xi_i^2] = \int_{-\infty}^{\infty} S_q(f) |C(f)|^2 df.$$

8. Signal (inner product) space
9. MAP and ML decision rules
10. Derivations of error probabilities and union bounds