

ECE 1502 — Information Theory
Problem Set 5
November 27, 2007

1. C&T 9.3 (Output power constraint)
2. C&T 9.5 (Fading channel)
3. C&T 9.6 (Parallel channels and water-filling)
4. C&T 9.7 (Multipath Gaussian channel)
5. C&T 9.9 (Vector Gaussian channel)
6. C&T 9.12 (Time-varying channel)
7. C&T 10.1 (One-bit quantization of a single Gaussian random variable)
8. C&T 10.2 (Rate distortion function with infinite distortion)
9. C&T 10.5 (Rate distortion for uniform source with Hamming distortion)
10. C&T 10.6 (Shannon lower bound for the rate distortion function)