ECE 422/522 Study Guide #5 February 5 2013

Tasks for this week:

Finish audio amplifier design simulations and turn in Wednesday. Finish bipolar transistor fundamentals.

Homework:

Complete the Audio Output amplifier design simulation for 9v and 18v power supplies to provide 60 hours of operation from a pair of 1200 mAH 9v Lithium batteries. Printout due Wednesday February 6 in class. Keep a copy to study for the Wednesday February 13 exam.

Study Material:

Re-read all of Chapter 8. This week we will finish Ft, single transistor amplifiers, the bipolar differential pair described in 8.5.3, complementary symmetry, and complete our introduction to LTspice modeling.

Next Graded Exercise

Midterm in class on Wednesday February 13. Bring a copy of the Simulation homework assignment you turned in on Wednesday February 6. Other than that, no notes, no calculators. Topics will all be from the output stage we have been designing in class. Expect 4 problems, one each on:

How the circuit works, including the fundamentals of emitter follower behavior covered in ungraded quiz 1, how gm affects drive impedance, etc.

The limitations on output drive voltage and current

Simulating and measuring distortion using 2 tones

The use of op-amp feedback to reduce distortion and set gain and bandwidth.