Lecture Topic: Building Blocks for Analog System on Chip:

Low-noise small signal narrow-band amplifier lecture 23 November
   see: “IQ Mixer with single SPDT Switch” paper
Frequency conversion block
Baseband low-noise small signal termination amplifier
Analog signal processing--all-pass filters and combiner
Baseband narrow-band filter
   see: “Project-Based RF/Microwave Education” paper
Gain control
Baseband gain and output drive (done)

Specific Example Application
10.140 MHz ionospheric signal receiver

Tasks for this week:
Continue building and measuring audio power amplifiers

Build and measure, section by section, the class audio amplifier kit. Confirm ~40
  dB gain and ability to drive 8 ohm load with at least 1v peak sine wave at 1 kHz.

Sketch an enhanced design, more power output, stereo, or a low power supply
  voltage, low quiescent current...this is an open ended problem of your choice.

Write up a description of the changes needed for your particular design, at the
  component level. Where possible, include analysis, simulation and measurement
  demonstrating your understanding of the design decisions involved in the change
  you have sketched. You are encouraged to consult with classmates.

An ungraded draft of your proposed design sketch is due in class on Thursday
December 3. A final version of your design is due at the final exam, no more than
  two pages, and will be used to answer the “mock technical interview question” on
  your personal final exam.

Approximately half of the final exam will be general questions from the class, text,
  and lectures, and the other half will be specific questions on your design.