

King Fahd University of Petroleum & Minerals
Department of Electrical Engineering
EE370 Communications Engineering I

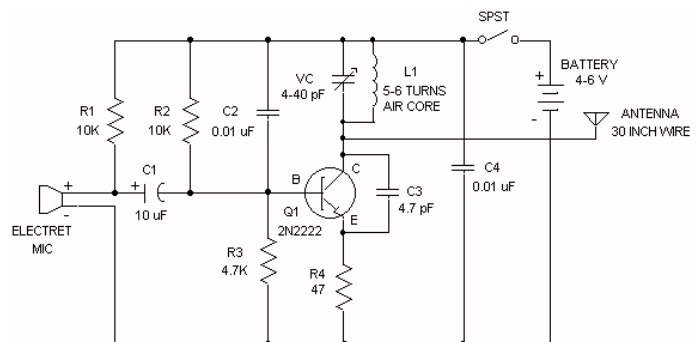
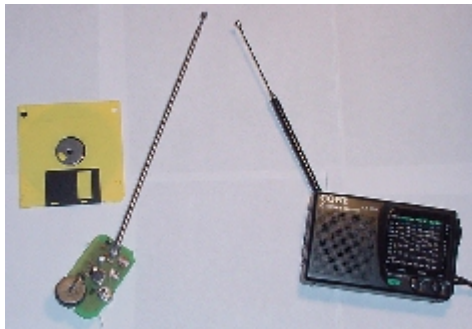
Design Project
Building and Testing Wireless FM Transmitter
(5%+1 possible bonus)

Due: Mon., Dec. 31, 2007

As an introduction to this project, read the information provided in this link

<http://www.boondog.com>

Click on Tutorials, then Wireless FM Transmitter.



NOTE 1: L1: length = 0.25 inch
diameter = 0.265 inch
5 to 6 turns yields apx. 0.17 uH
NOTE 2: VC set at 12.5 pF yields 108.8 MHz

1. Build the circuit!
2. Test it and make sure it is working!
3. Assume a single tone input at the microphone. Explain how this circuit works. Show the signal or its spectrum at different points in the circuit. You may do that by measurements (Oscilloscope) **or** by PSpice.
4. Explain in details how the circuit works in light of what you have studied in EE370.

Hints:

1. Your short report should be self contained. The reader should not feel that you are answering questions! (Introduction, body, **conclusion**)
2. Writing style and organization are very important (Quality not Quantity!)
3. Work in groups of two (maximum of three)
4. Try to learn from the project by examining the signal in the time and in frequency domain at different locations.
5. Start early to avoid any last minute problem (Enjoy the Break!).
6. It will be your sole responsibility to make the components available.