



An Example of KiCad

A Printed Circuit Board Layout Program

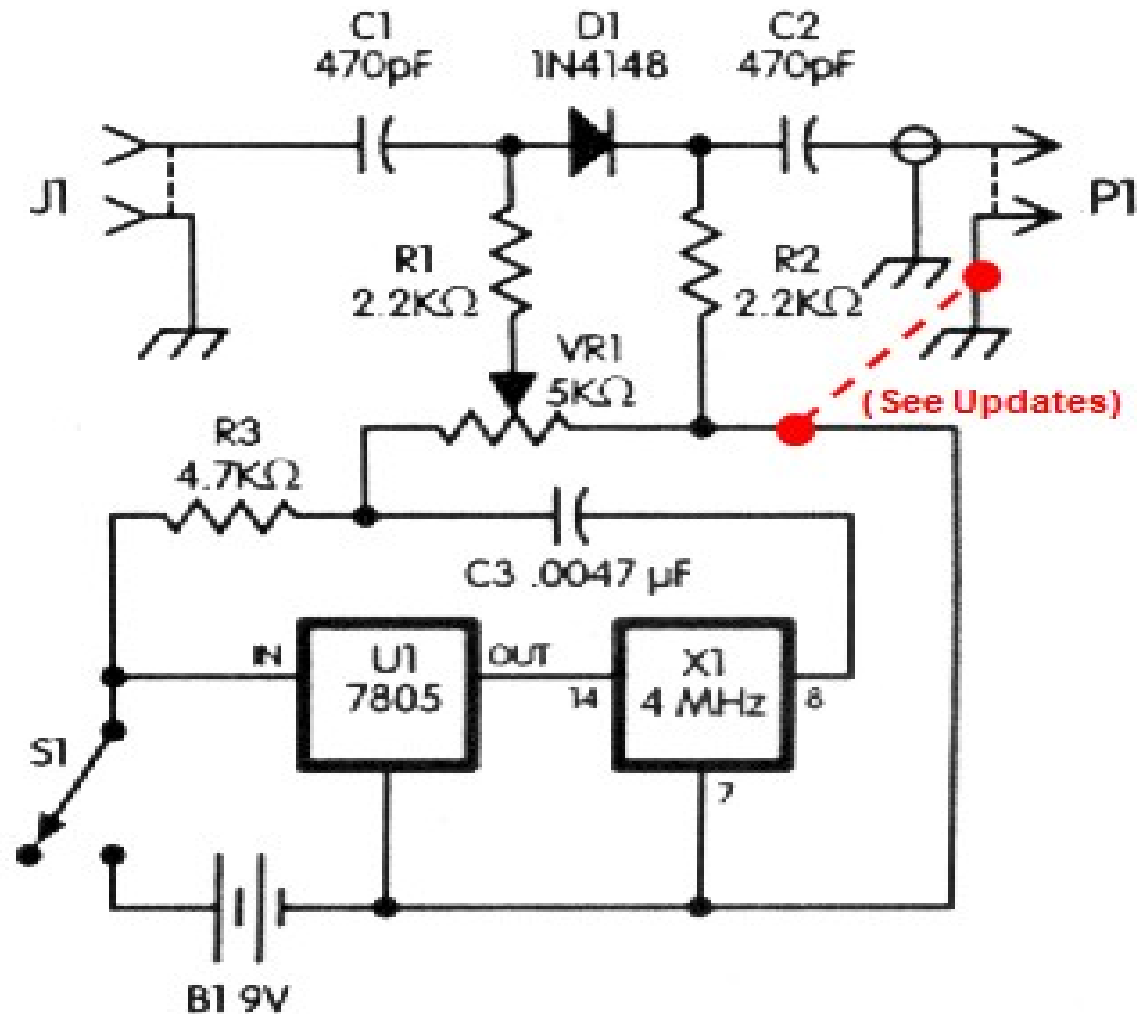
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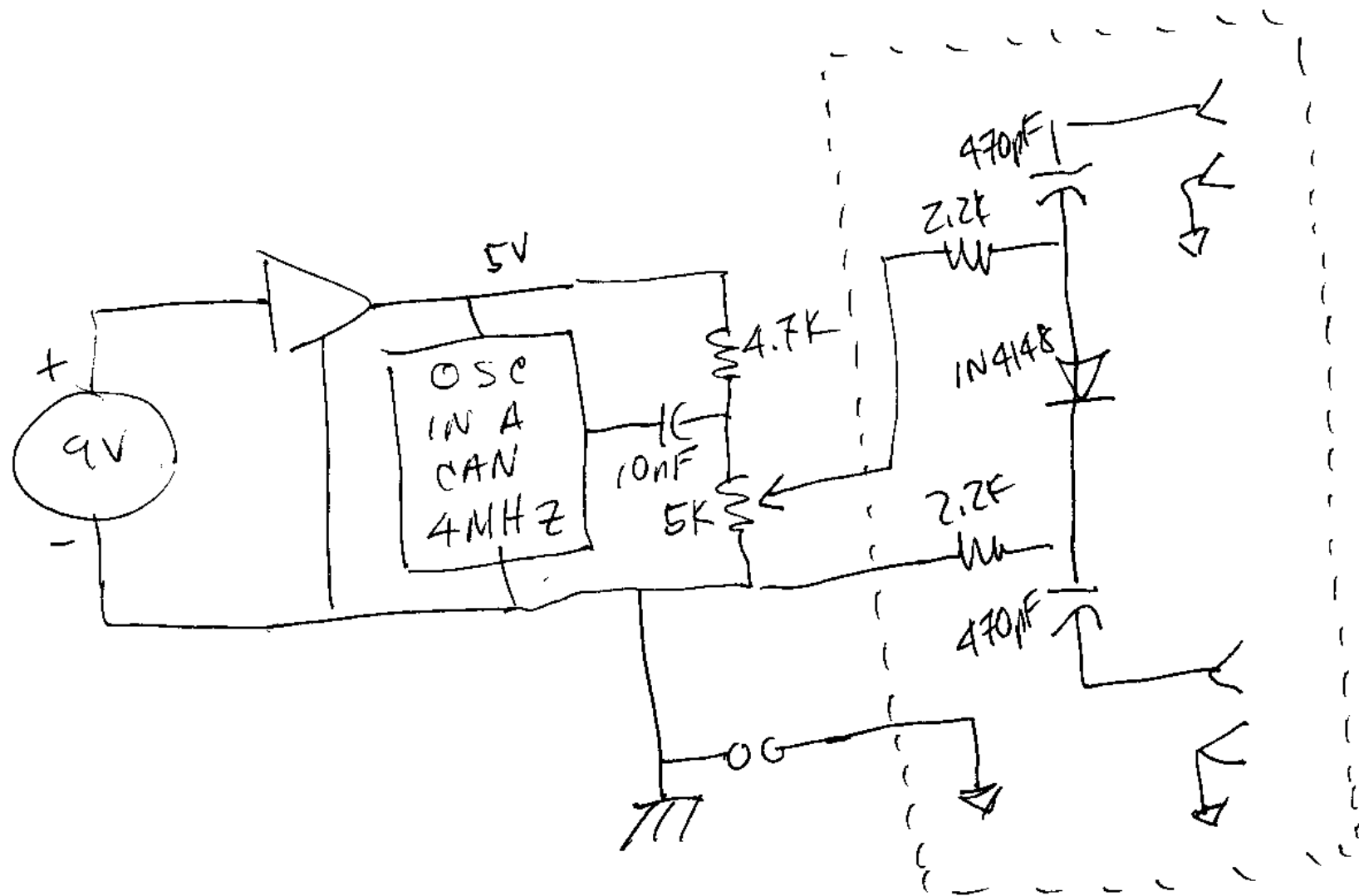
Sample Project – Offset Attenuator for T-Hunts

- A simple circuit to demonstrate how KiCad functions.
- Self-published article by Joe Moell, KØOV
- <http://www.homingin.com/joek0ov/offatten.html>
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Circuit from K00V Article



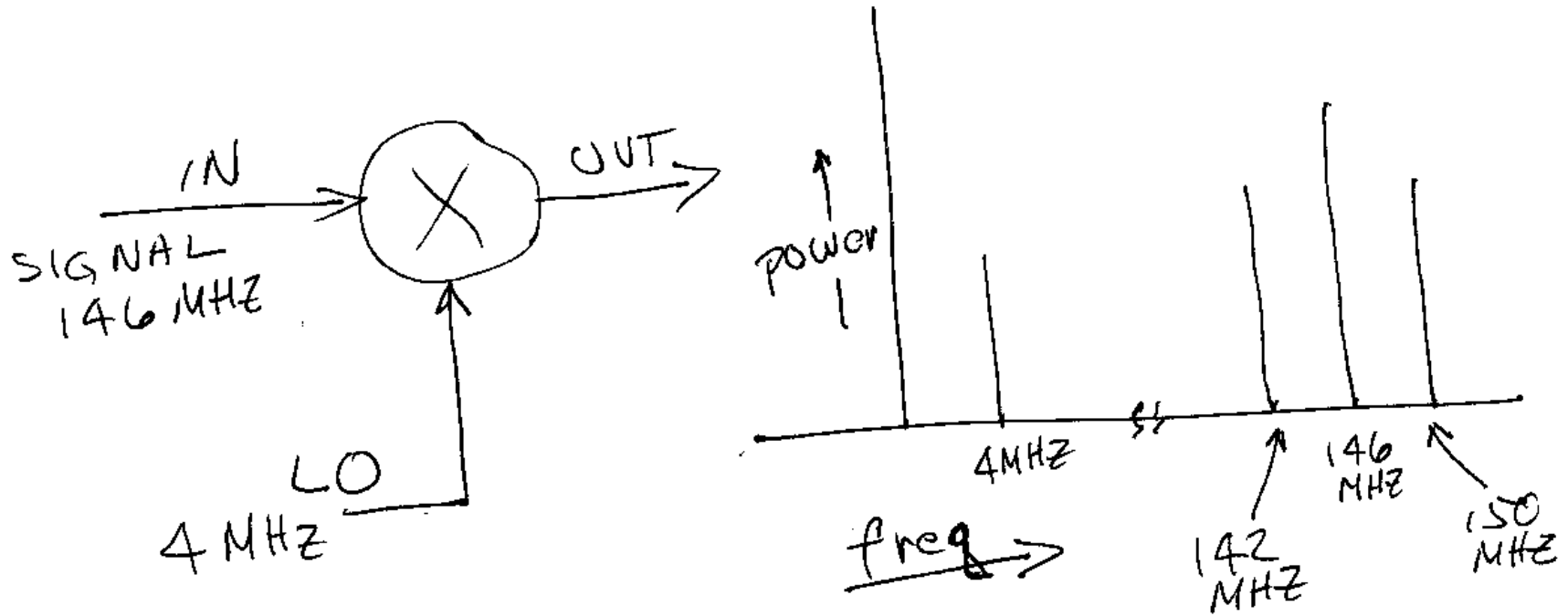
Re-Drawn Circuit



Diode is a Mixer – Why Do That?

- The Diode is a mixer and the 4 MHz oscillator is a “Local Oscillator” like in a superhet receiver.
- Why not just have a potentiometer the on input jack and put wiper on the output jack?
 - It would work at low frequencies (5 MHz or so).
 - At VHF the RF signal will leak around the potentiometer; won't get much attenuation

Mixer Function



MIXER FUNCTION

Why Use a Mixer as an Attenuator?

- One characteristic of a mixer is that the output products (the sum and difference frequencies) are proportional (within limits) to the amplitude of the input signal ***as well as the amplitude of the local oscillator.***
- So vary the amplitude of the 4 MHz local oscillator with a potentiometer and the amplitude of the mixer output sum and difference frequencies will vary in proportion.
- With this configuration the potentiometer can effectively control the amplitude of a VHF/UHF signal.
- When close to the T-Hunt transmitter tune to the sum or difference frequency, not the actual transmit frequency, and adjust potentiometer for mid-scale S meter reading, then rotate antenna to find transmitter.



Reference

- My reference page on KiCad tutorials and board suppliers
 - <http://ad7i.net/main/kicad/>