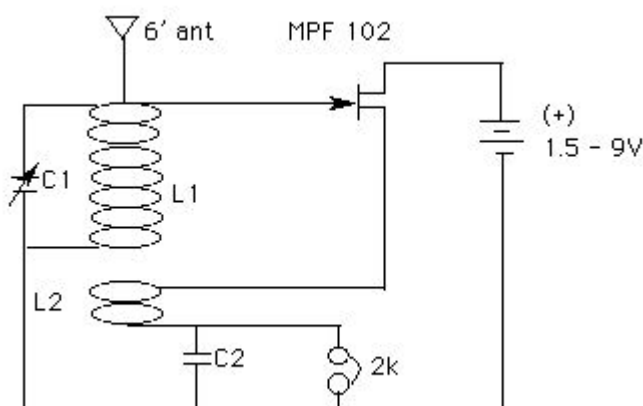


Look Ma, No Resistors!

(updated 23 Jan 00)

If you can find a simpler regenerative receiver that works, it won't be much simpler than this one by [Anthony Felino, WN6Q](#). Since seeing is believing, he sent me a BC band version of this, and with a 6 foot antenna and no ground it receives all the locals, and beats the carriers of a bunch more. With an antenna/ground link coupled to the tuning coil, it pulls in the distant stations, separating them quite nicely. Anthony also has a short wave version of this, and has made several 40 meter cw contacts using it. Here's the BC version's schematic:



Parts:

C1/L1 normal tank circuit values for band of interest - 100 turns of #24 enameled wire wound over a 4" length of toilet paper roll with a 365 pF capacitor will cover the BC band.

L2 is 10 turns close wound on a section of toilet paper roll

C2 0.01 uF fixed capacitor; Anthony claims this reduces hand capacitance effects from the phone cord

Q1 MPF 102 JFET

For the HF region, Anthony used a 50 - 130 pF variable and a 5 uH coil in the tank circuit, with a 4 turn coil for the link. For his antenna, he coupled a 40 meter antenna to L1 using a 1 turn link around L1; this link connected between the antenna center conductor and ground - the link was also connected to chassis ground. He got coverage from 5.7 - 7.8 MHz with this combination.

In true barebones spirit, you unplug the phones to turn the receiver off.

If you want to use crystal earplugs, you need to use a 2k resistor across the plug in place of C2. I tried this and it works (works with my super convertible too).

Control of the receiver is through manipulation of C1 and the position of the tickler coil L2. For his HF rig, he rotated the tickler inside L1 to vary the coupling. For the BC

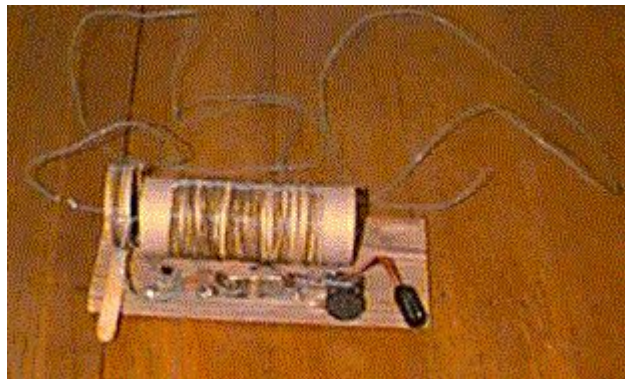
rig, he glued the tickler coil on a popsicle stick next to the tuning coil, used a screw to hold one end of the popsicle stick to the chassis, then used the other end of the stick to move the coils apart.

The tickler coil can also be placed in the circuit between the source of the JFET and the battery (+).

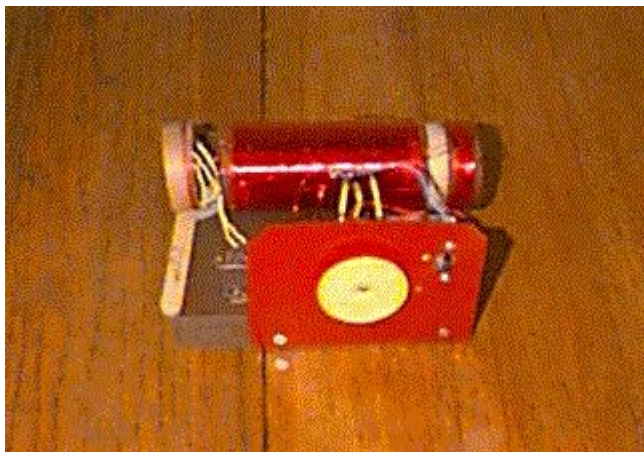
With the short antenna directly connected to the tank circuit as shown, any movement of the antenna will cause some frequency shift. If you want to chase more stations, I recommend you inductively couple the antenna to the set. As with any simple rig, an antenna tuner and wave traps can help you go after the distant stations, while suppressing the locals.

Oh yeah, this rig, as with all regens (and superhets and superregens) will reradiate at its oscillating frequency. With his HF version, Anthony says the radiation is only about -40dBm (0.01 uW), so I wouldn't worry about polluting the rf environment with it. On the other hand, you can use the rig as both a transmitter (just key the battery) and a receiver, and get on the air with a friend. Don't do this on the ham band without a ticket. On the BC band, have a ball, Part 15 of the FCC regs permitting and all that.

Here is a picture of the set Anthony sent me, less battery and earphones:



And here is a picture of my version - I added an on/off switch and an antenna coupling coil (right side of coil). I also used 150 turns #24 on a tp roll core with a 220 pF polyfilm cap. Used a 5 turn tickler coil and a 20 turn coupling coil.



[Back](#) [Home](#)