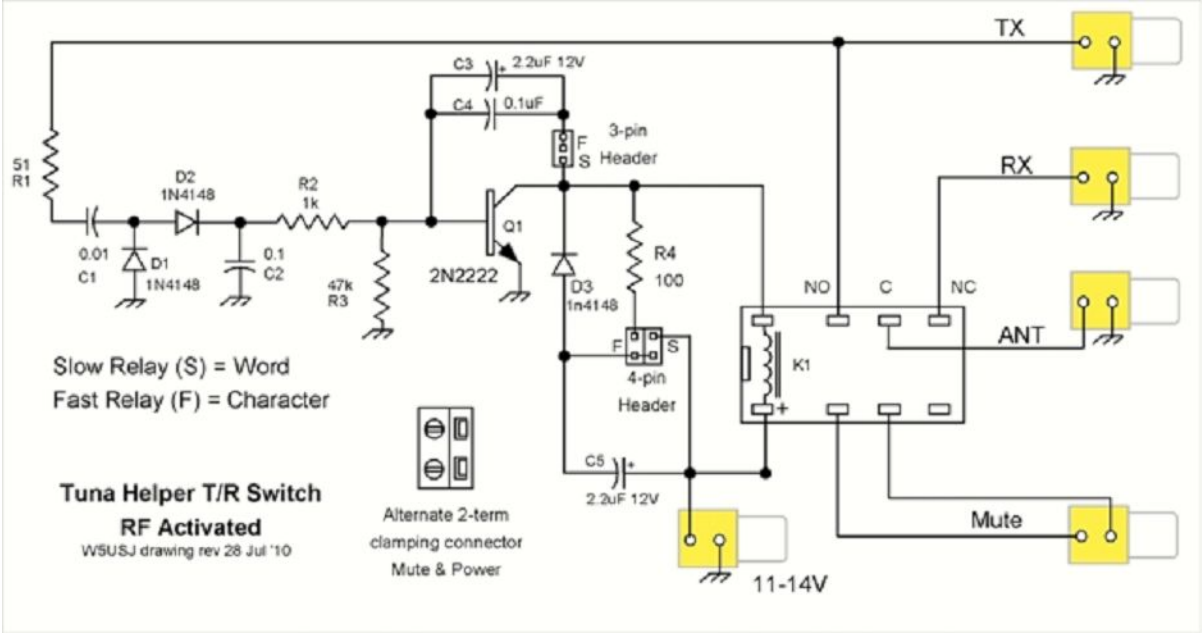
QRPme's Tuna Helper Kit

Pull the tab, open the can and survey the parts…

I have a special tuna can rigged for holding the parts of my current kit under construction.



Tuna Helper List of Materials:

Diodes: D1, D2 & D3 = 1n4148

Rexistors: R1 = 51 ohms (green-brown-black)
R2 = 1K ohms (brown-black-red)
R3 = 47K ohms (yellow-violet-orange)
R4 = 100 ohms (brown-black-brown)

Capacitors: C1 = .01uf (103)
C2,C4 = .1uf (104)
C3,C5 = 2.2uf

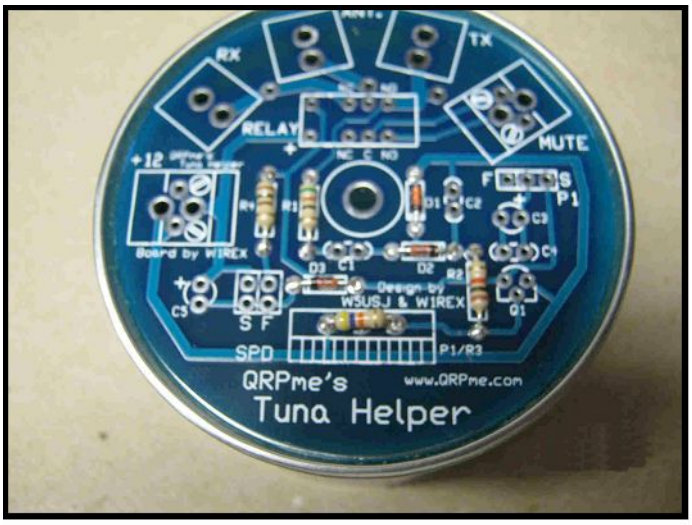
Transistor: Q1 = 2N2222A

Relay: RELAY = Axicom DPDT

Connectors: ANT, RX, TX, MUTE = RCA
+12v = RCA OR 2 pos. screw terminal
P1 = 3 pin (3x1x.1") Molex single row header with jumper
SF = 4 pin (2x2x.1") Molex dual row header with jumper

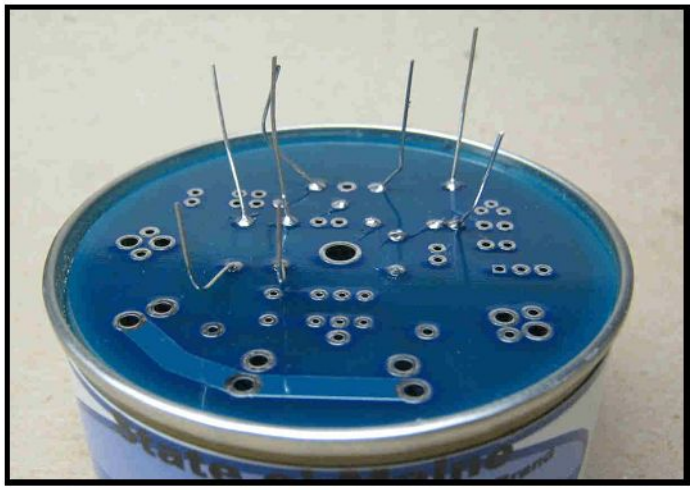
Misc: 6x32 nut & 6-32x1.5" bolt, circuit board, can & label

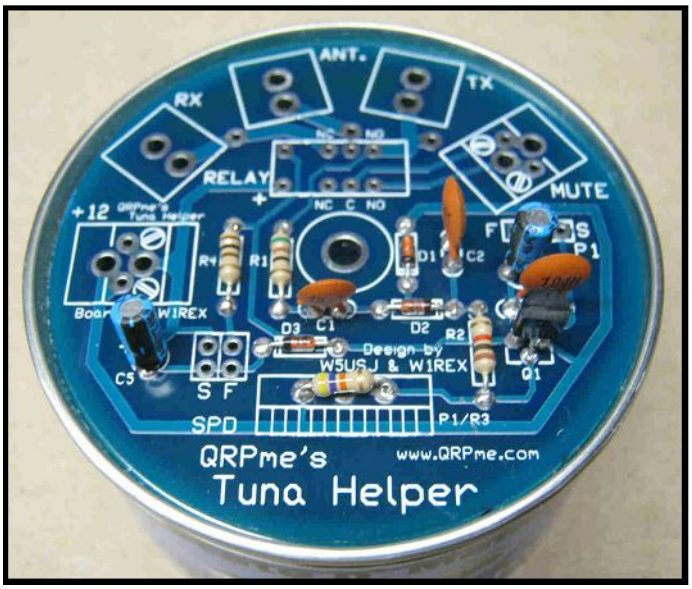
OK let's get to the building part……



Install the low parts:
Diodes:
D1,D2,D3: 1N4148 or 1N814A
Resistors:
R1: 51 ohms (GRN BRN BLK)
R2: 1K ohms (BRN BLK RED)
R3: 47K ohms (YEL VIO ORG)
R4: 100 ohms (BRN BLK BRN)

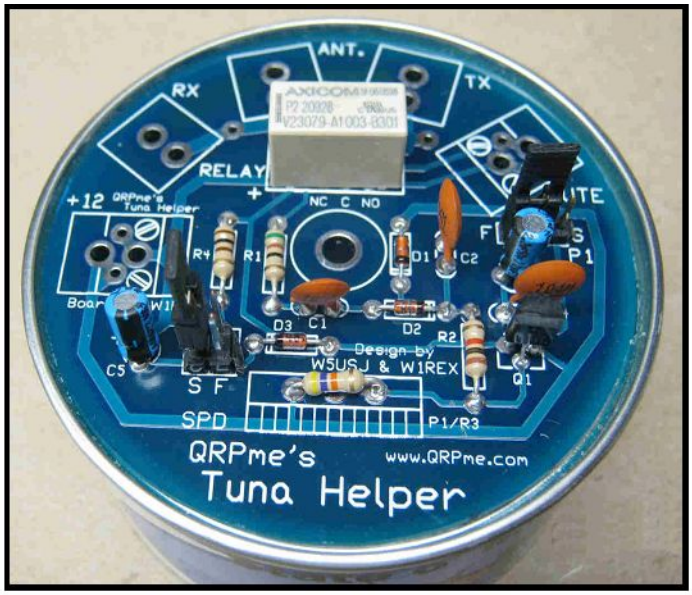
You can batch solder parts for quicker assembly. I insert 3 or 4 parts, spreading the leads apart to keep them in place when the board is flipped over. I place the board on the can for stability. Solder and clip off the excess leads…





Now add the capacitors.
C1: .01uf (103)
C2,C4: .1uf (104)
C3,C4: 2.2uf

and the transistor.
Q1: 2N2222A



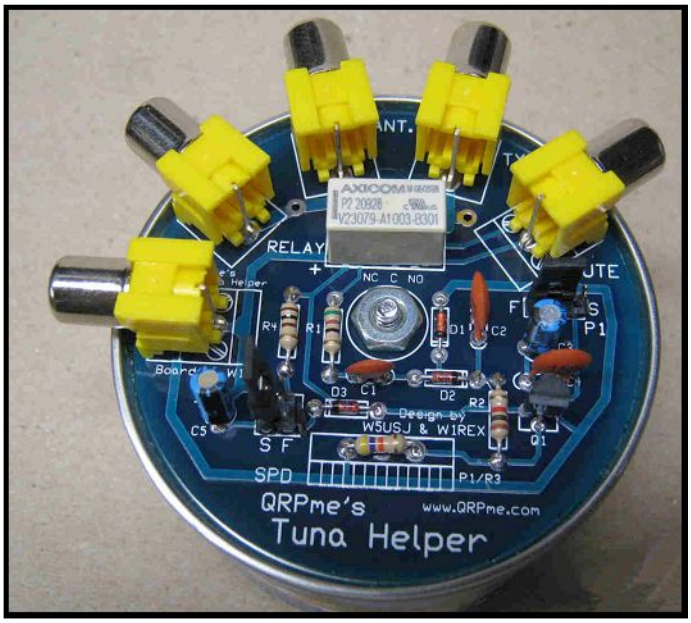
Tall stuff like the relay and connectors are next.

P1: 3 pin x .1" spacing header
SF: 2x2 x.1" spacing header

Relay: Axicom DPDT

Now add the bulky connectors. I use all RCAs in my tuna station; but supply a 2 pin screw terminal connector for the power connector if you want to run wires….

The board is now finished and is mounted on the can and secured with the bolt & nut.



Your Tuna Helper is now ready to automatically switch your antenna between the transmitter and receiver! I use RGB component video cables to hook it up in my station.

ENJOY!