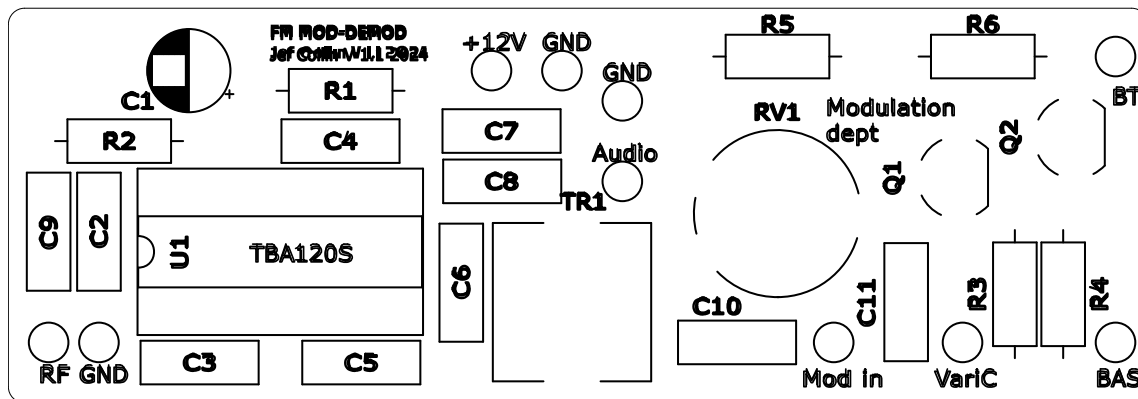


## Mounting instructions FM demodulator/modulator Cybernet PTBM048AOX



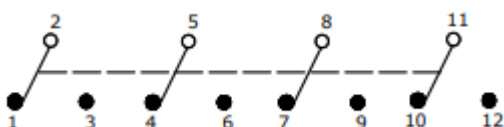
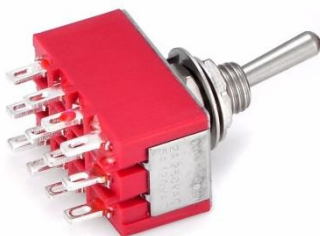
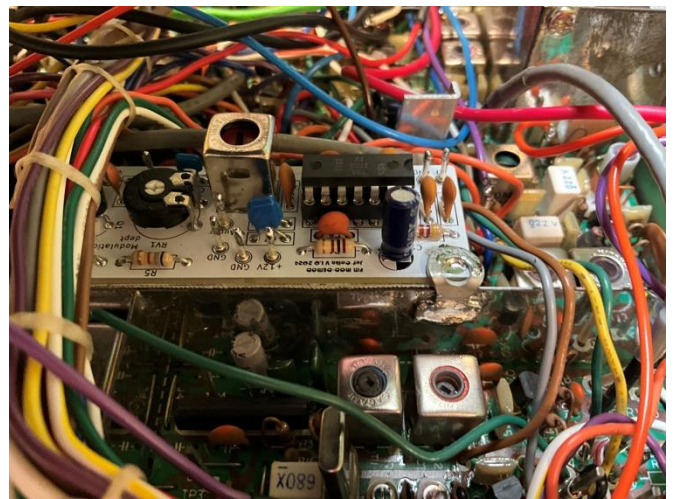
Version 3/10/2024 © Jef Collin

**Important:** these instructions are for Cybernet PTBM048AOX platform (as used in many old CB radio's under many brand names) and similar ones. Although the module might work in many others, I cannot provide instructions. Basic electronic skills are implied, don't do this installation if you cannot distinguish a resistor from a capacitor or lack decent soldering skills. I am not responsible for what you build and how you use it.

Mount the FM module, around the middle, above the filter unit is a good spot. Test pins fit perfect in the connecting points. Since it will be very close to the filter unit, insulate the bottom of the PCB with a few layers of duct tape. Clear any wires in that area.



A "faston" eyelet folded open and bent forms a solid bracket for mounting the PCB to the metal shield, solder to the shield and mounting hole.



4PDT switch for AM/FM switching, mount at the back, pin 1 facing up as in this picture (pin 1 is upper right pin).



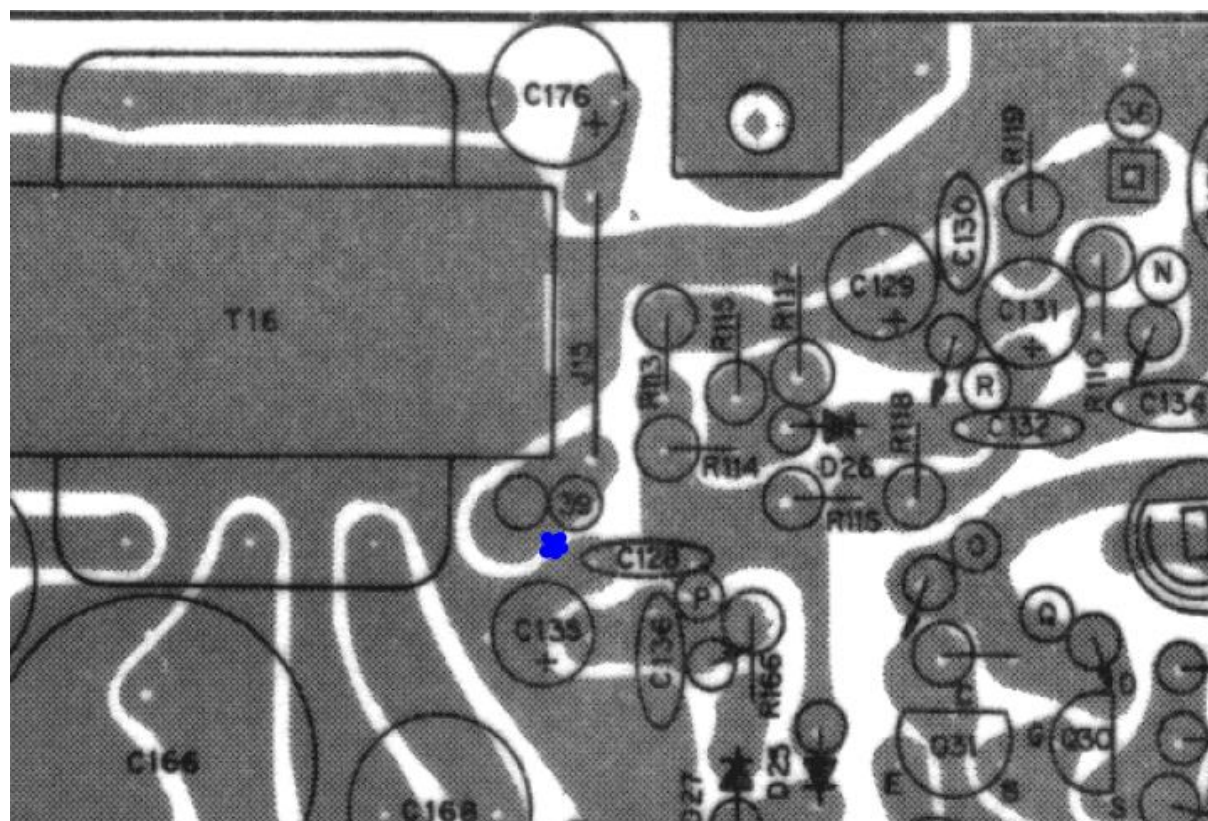
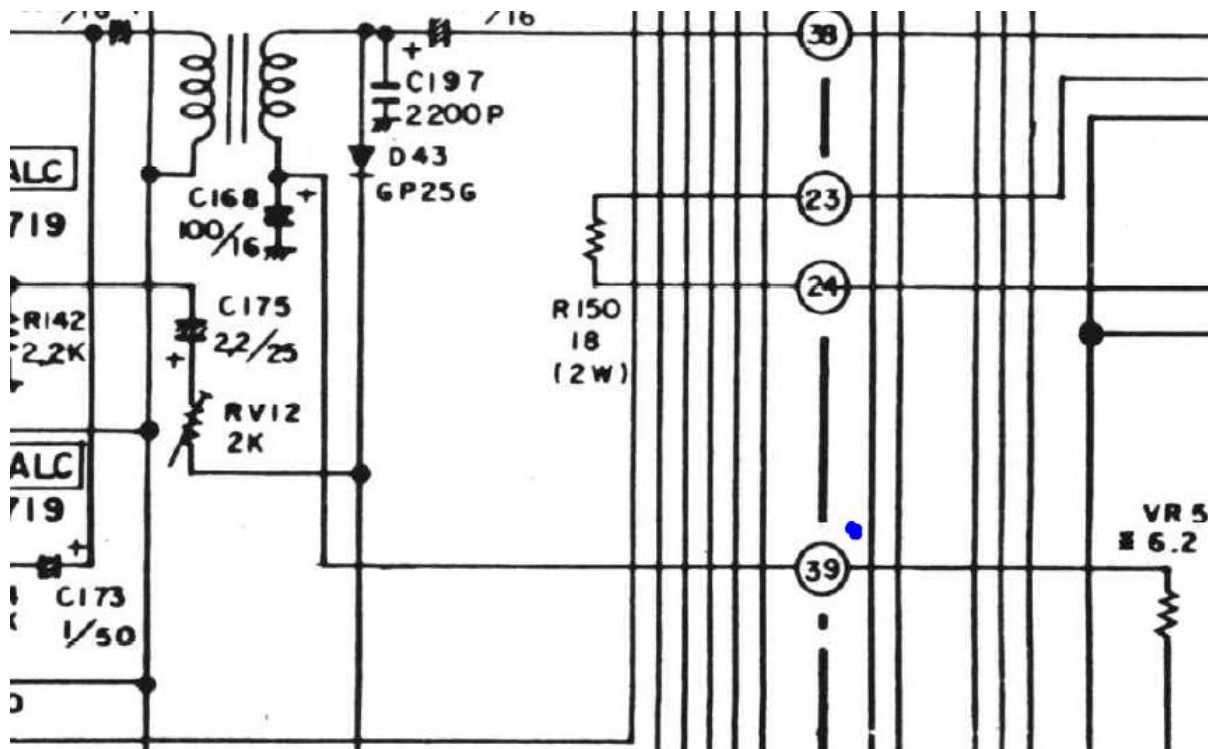
### Demodulator section

Connect switch pin 12 to PIN 39 of main PCB.

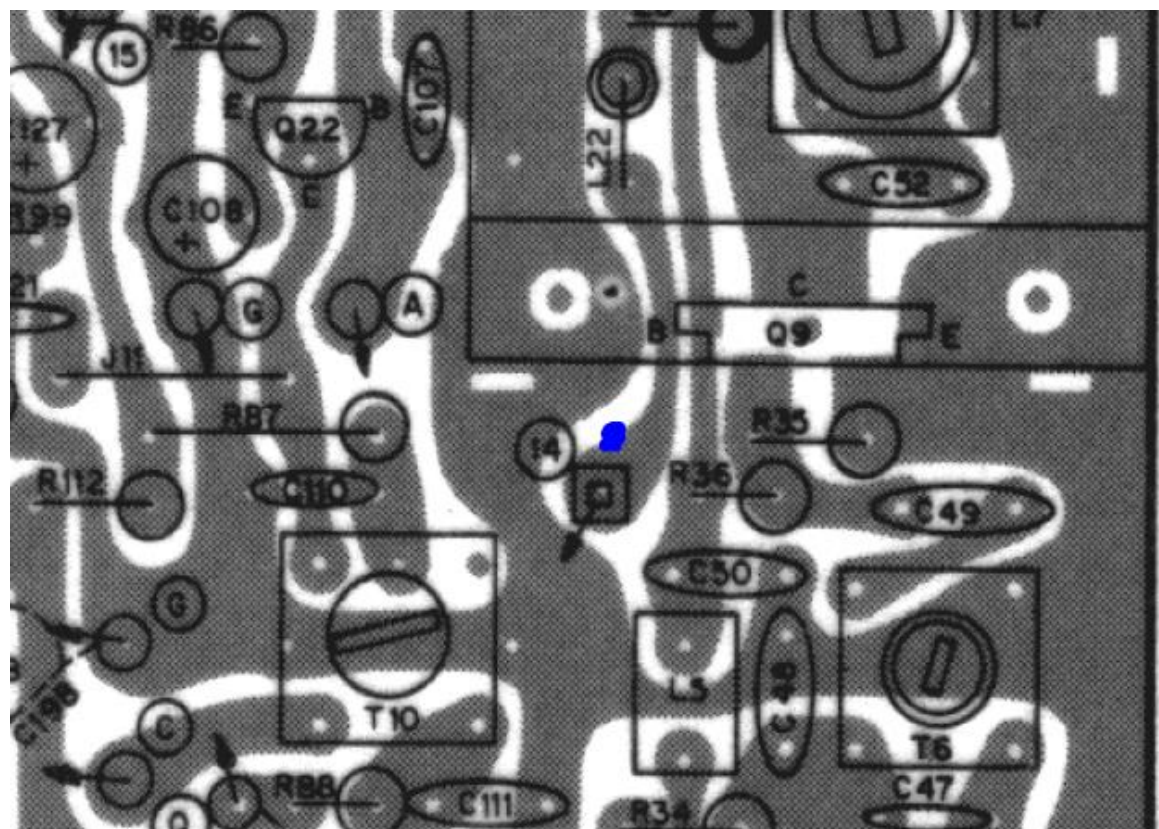
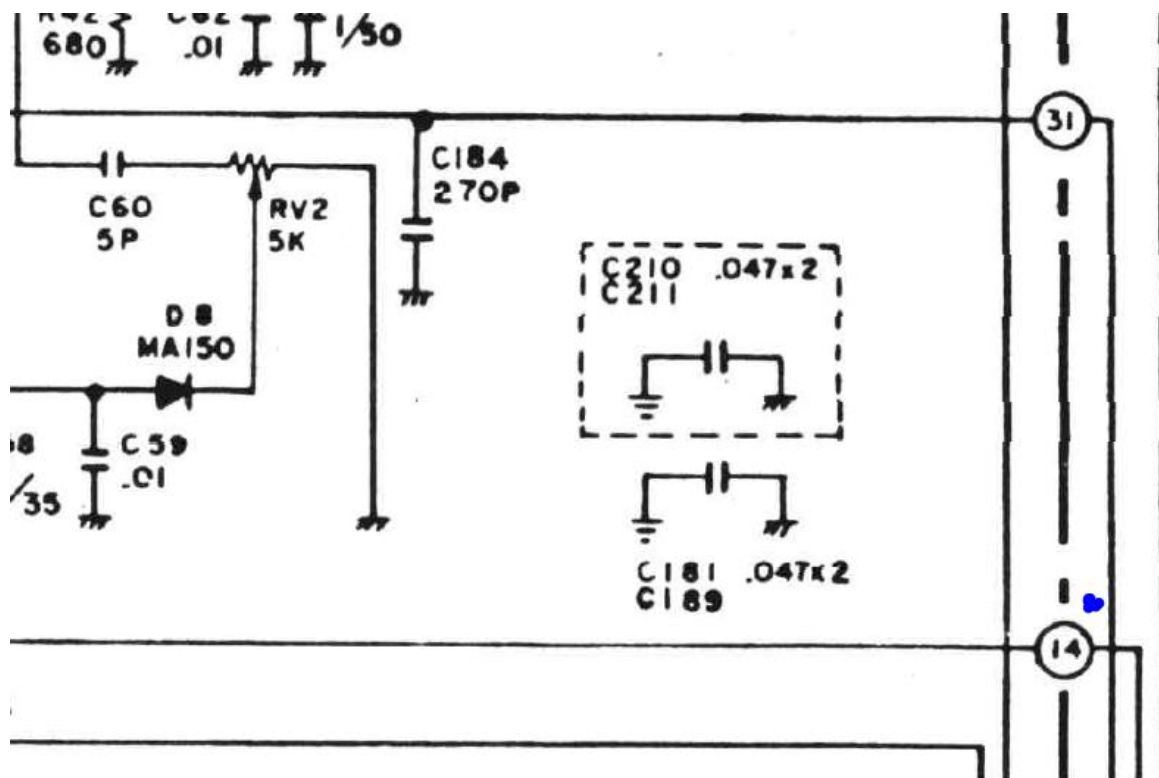
Disconnect wire going to PIN 14 of main PCB.

Connect switch pin 11 to PIN 14 of main PCB.

Connect the wire that was connected originally to pin 14 to switch pin 10, you might need to extend it.

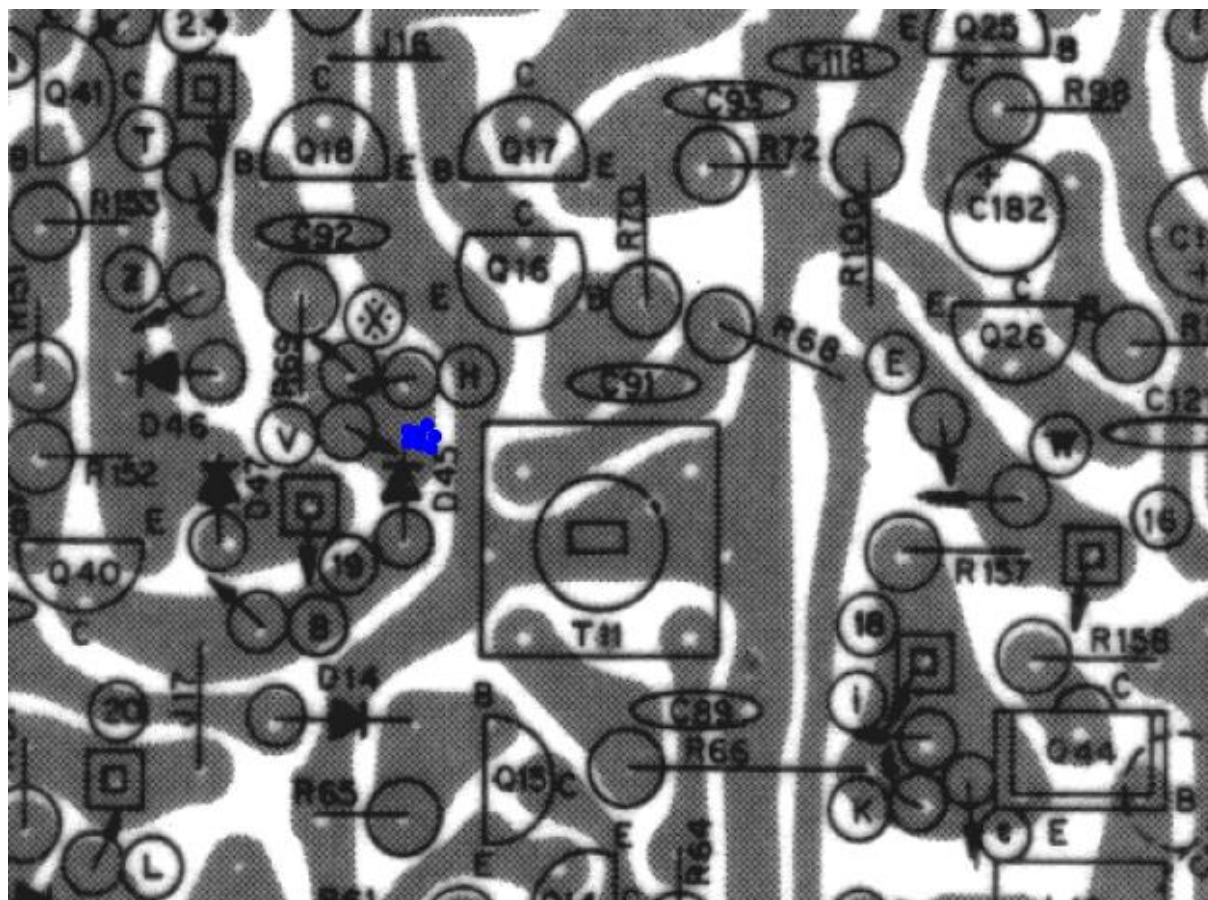
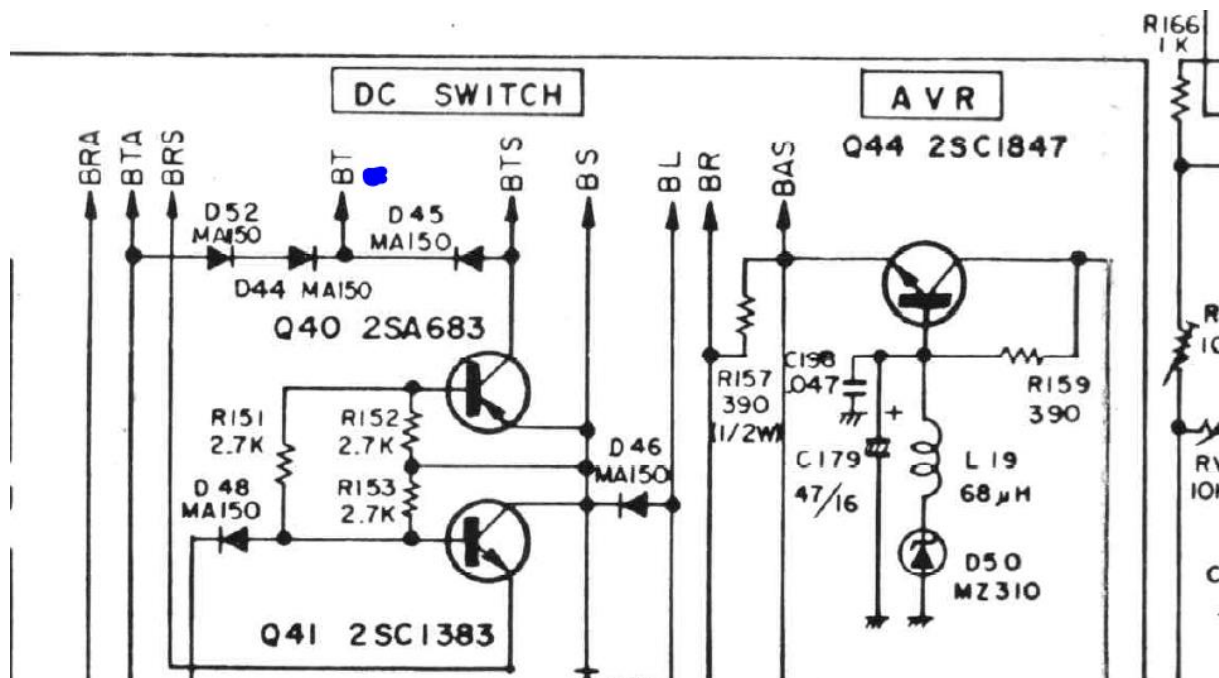






Connect BT on the main PCB (cathode of D45) to switch pin 9.

Connect switch pin 8 to BT of the FM module.

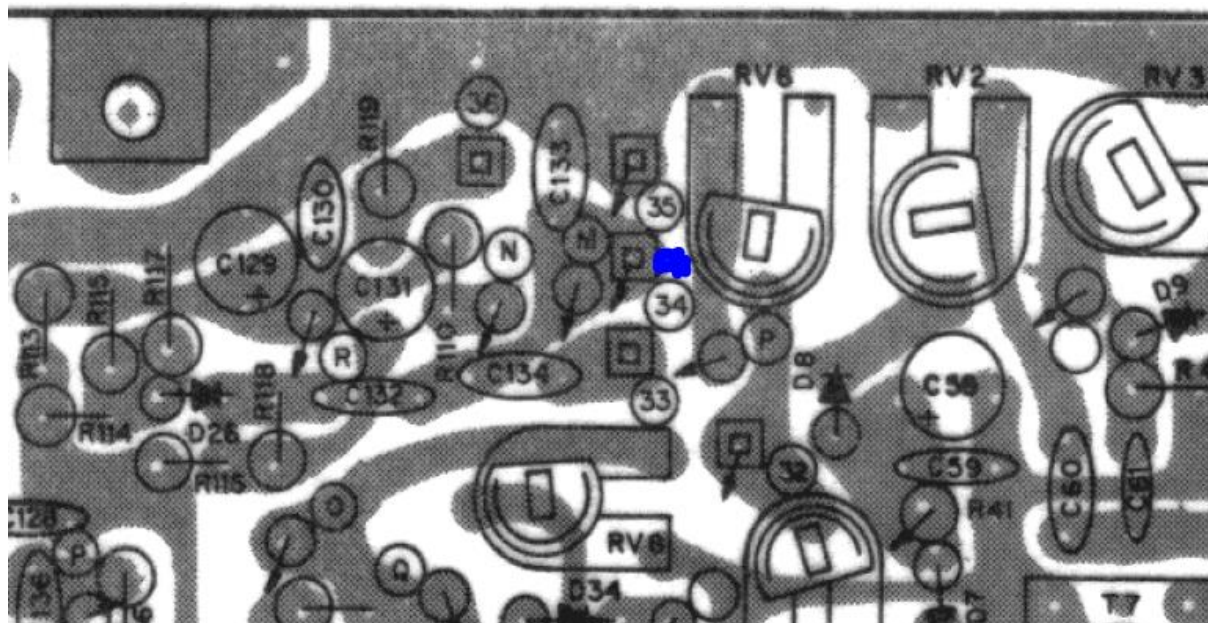
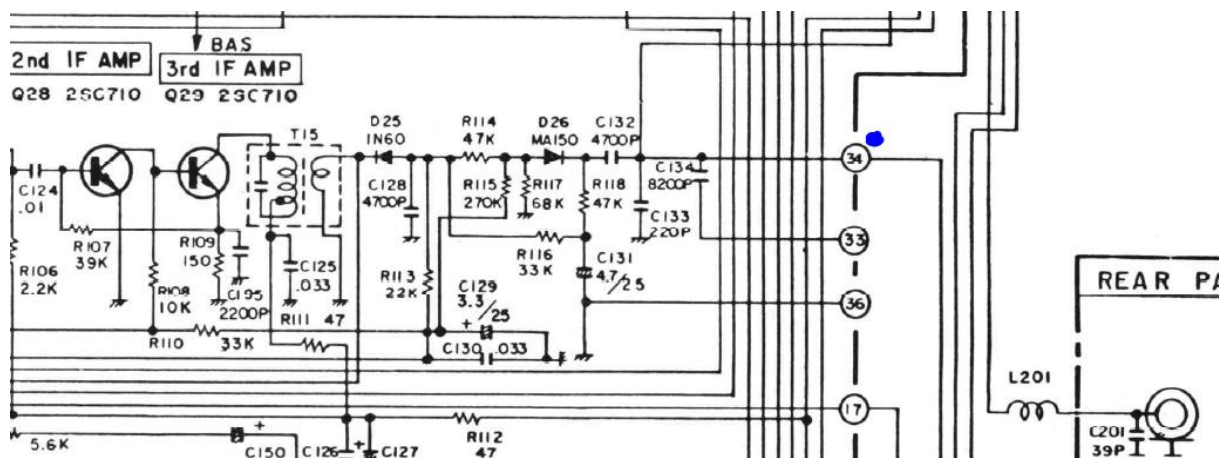




Connect switch pin 6 to Audio output of FM module using a shielded cable, connect the shield on one side to the GND pin next to the Audio pin.

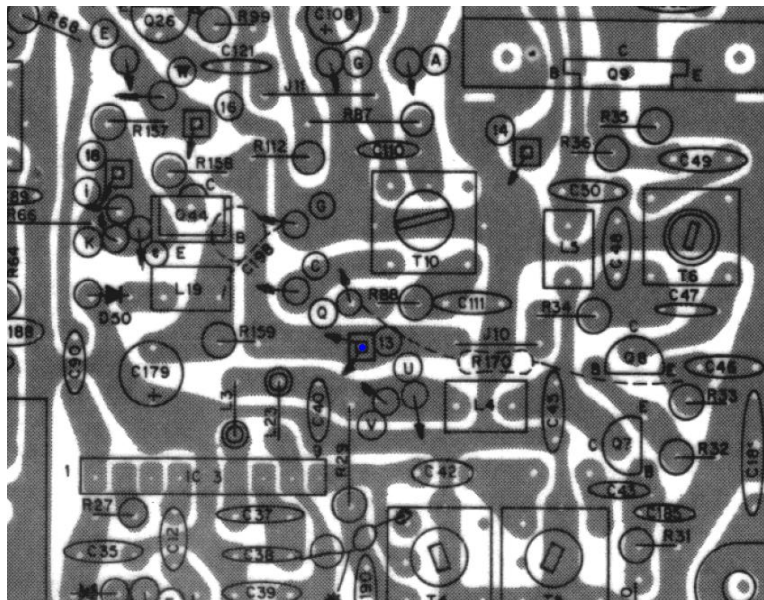
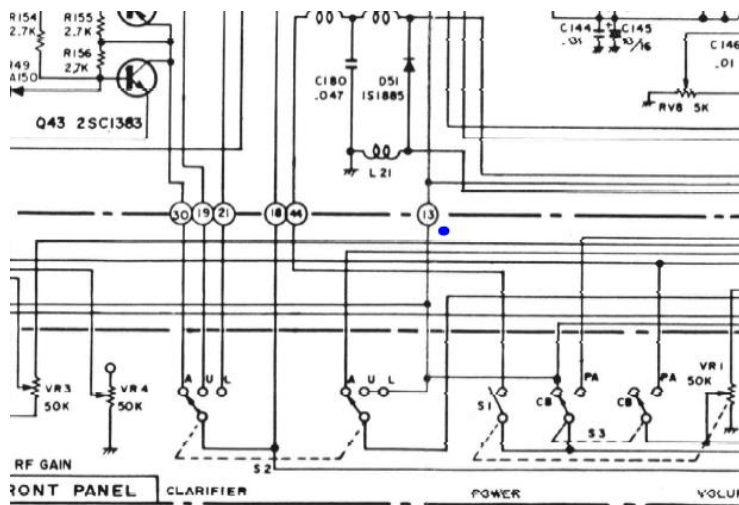
Disconnect wire going to PIN 34 of main PCB, connect that wire to switch pin 5.

Connect switch pin 4 to PIN 34 of main PCB.



Connect switch pin 3 to PIN 13 of main PCB.

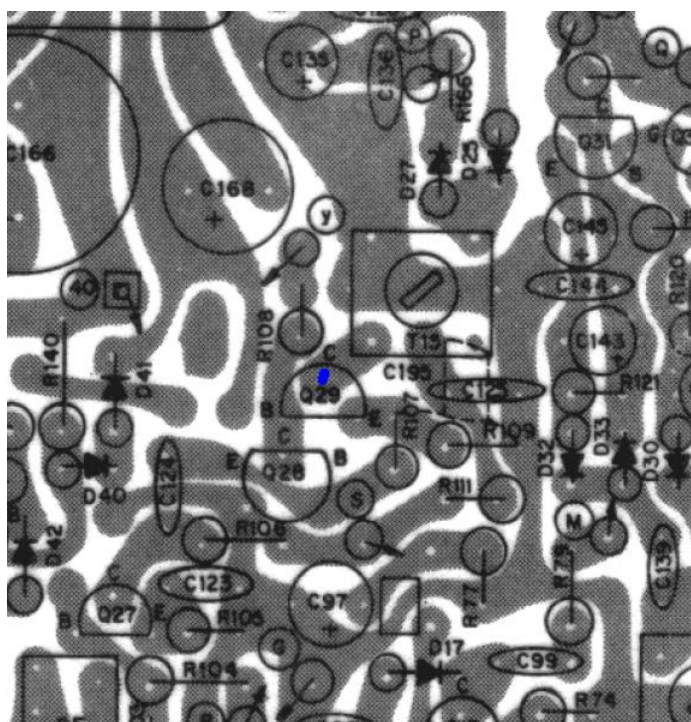
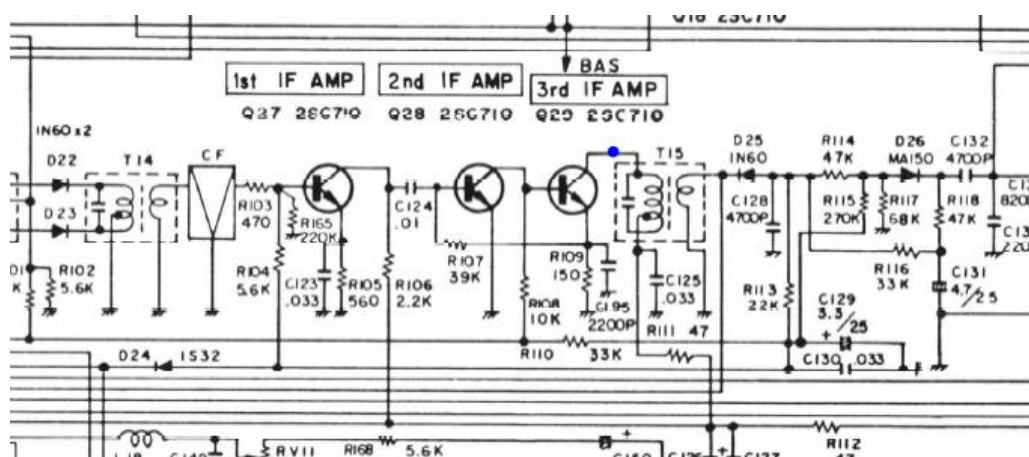
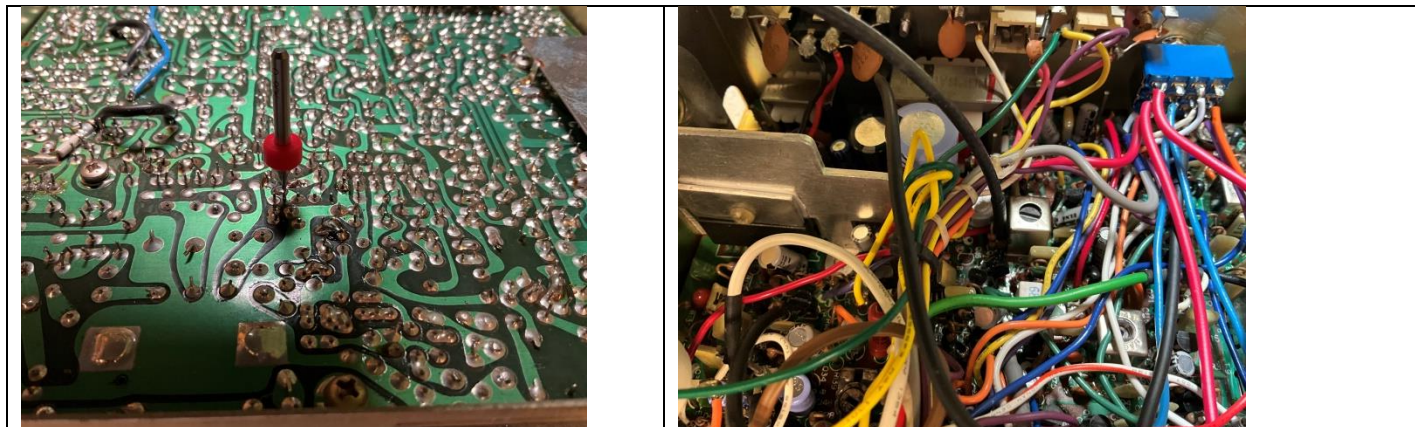
Connect switch pin 2 to +12V of FM module. Connect GND pin next to it to a close ground point of main PCB.





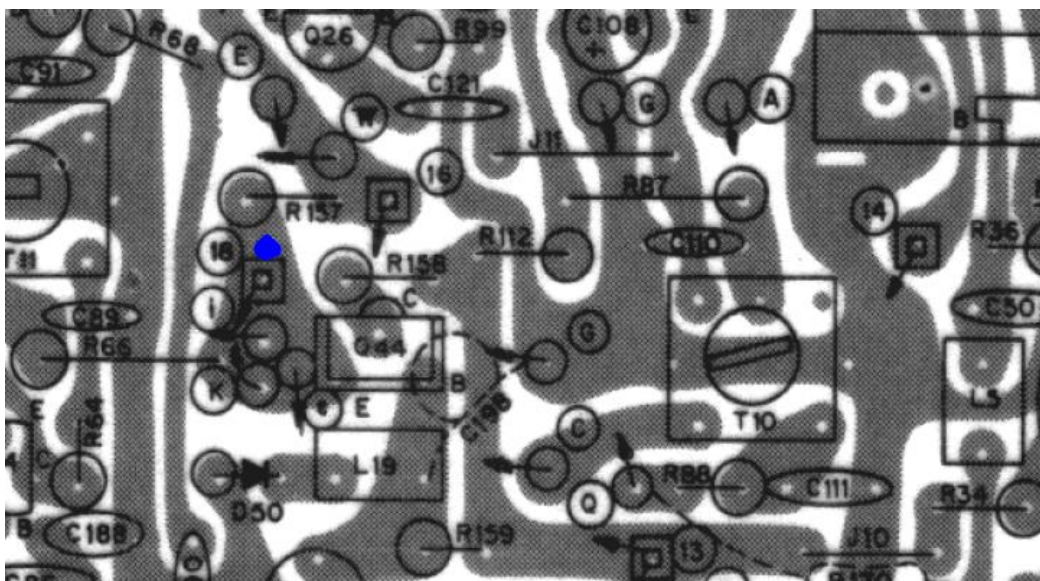
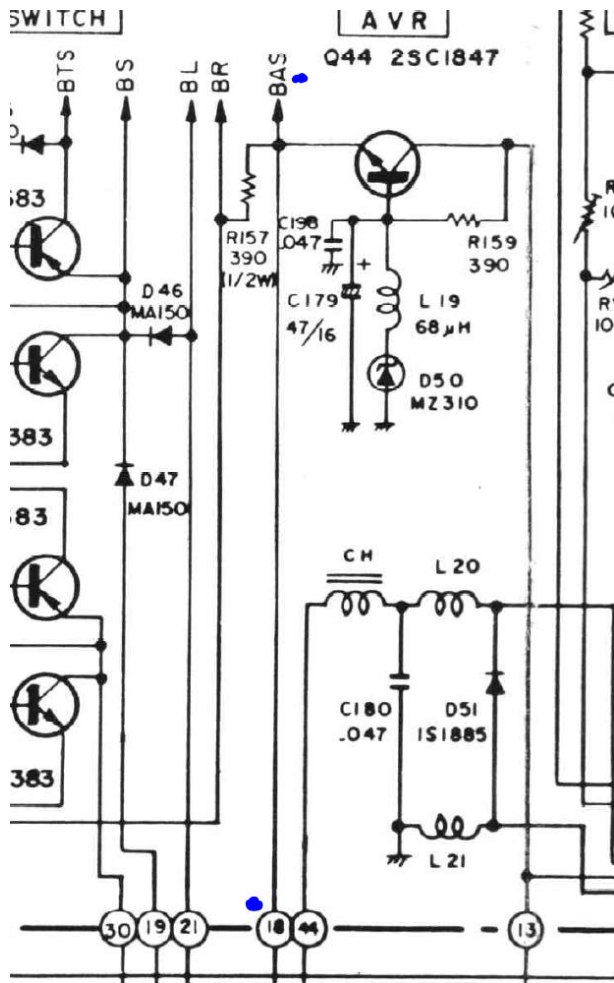
Connect the RF pin of the FM module to the collector of Q29 using a shielded cable, connect the shield on one side to the GND pin next to the RF pin, use heat shrink tube on both ends of the cable.

The easiest way to connect is to drill a small hole just above the collector, next to the metal can, put the wire through and solder on the solder side of the PCB.



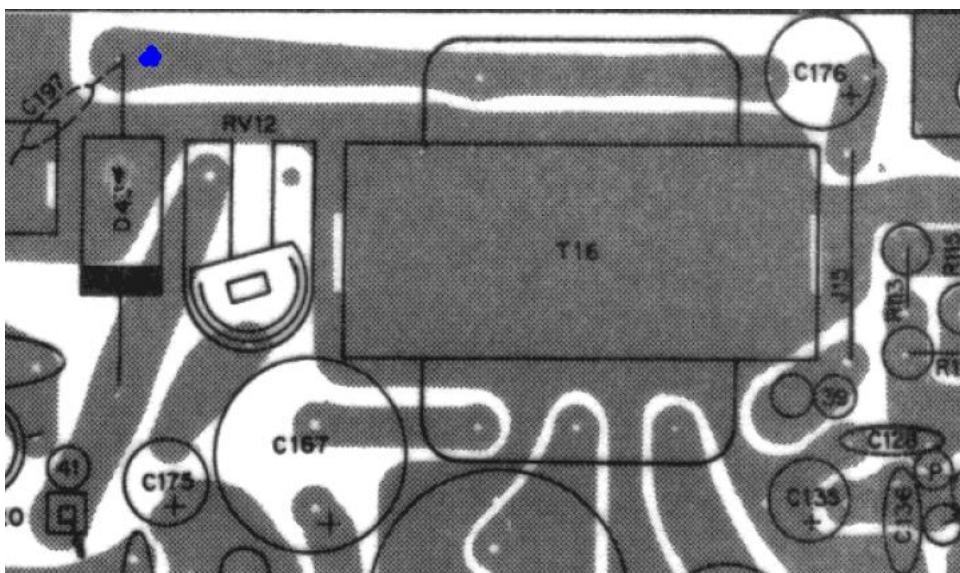
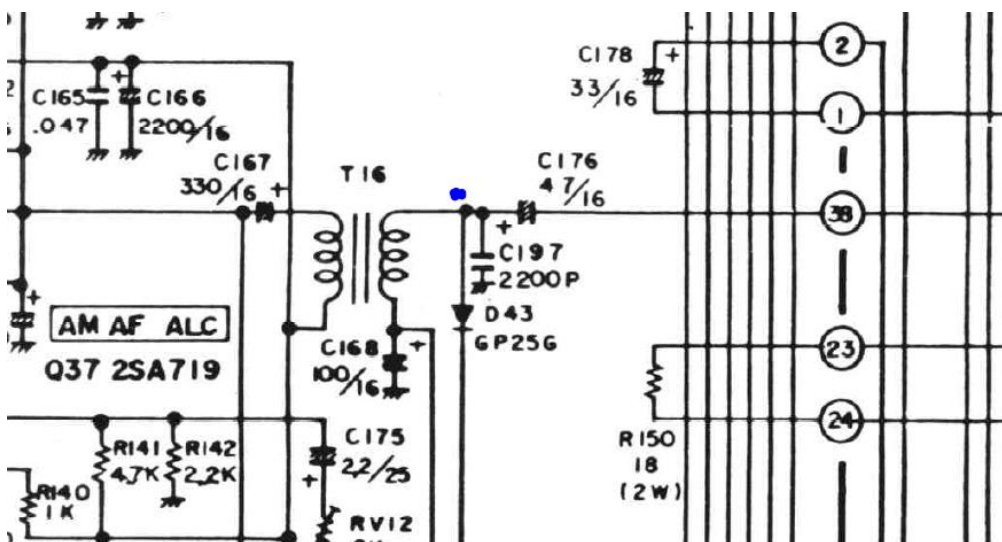
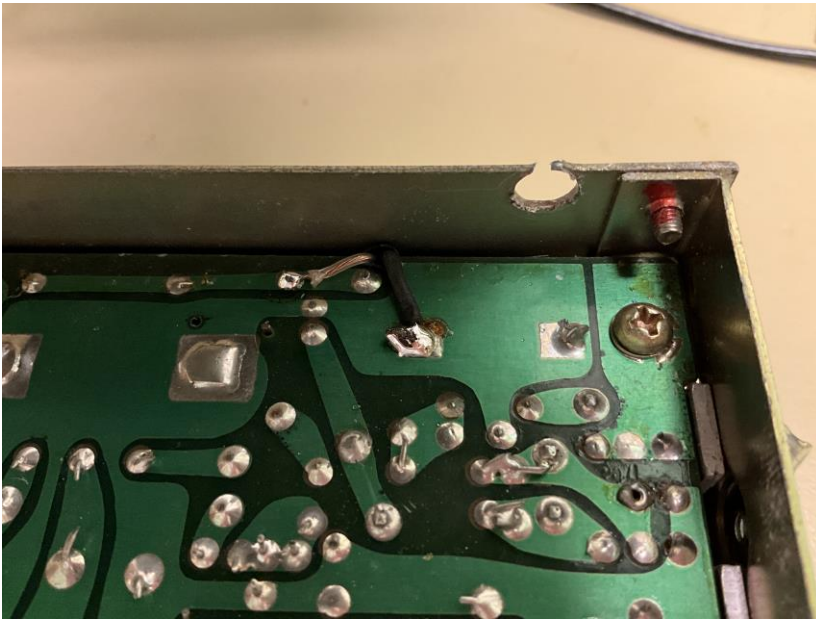
## Modulator section

Connect BAS pin of the FM module to PIN 18 of main PCB (BAS voltage).



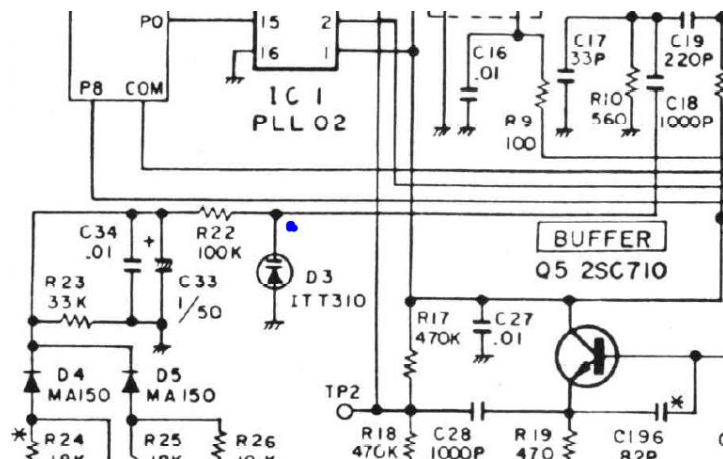
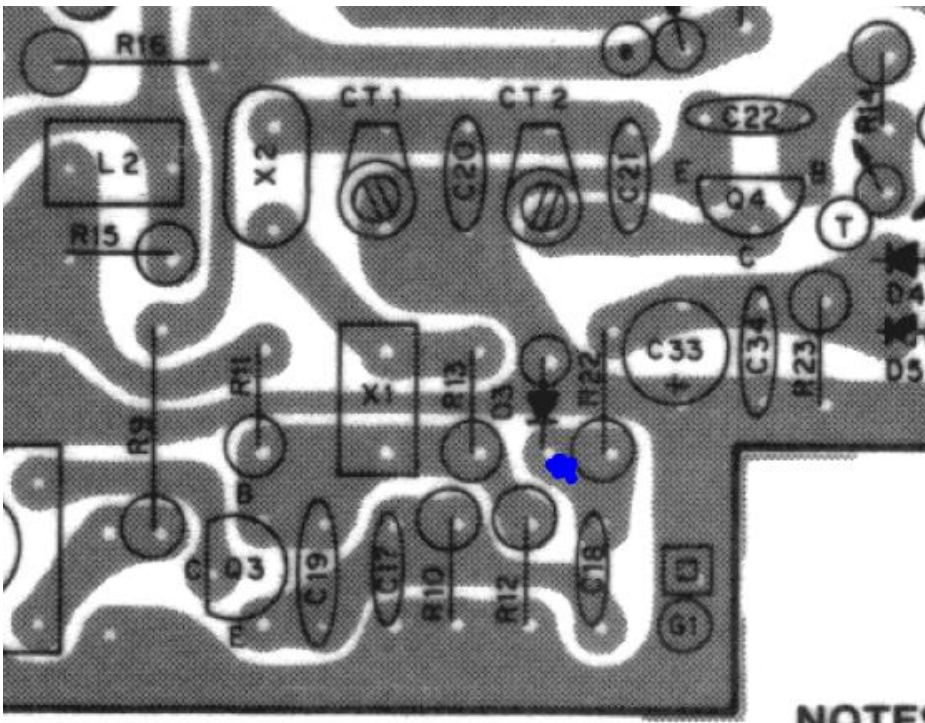
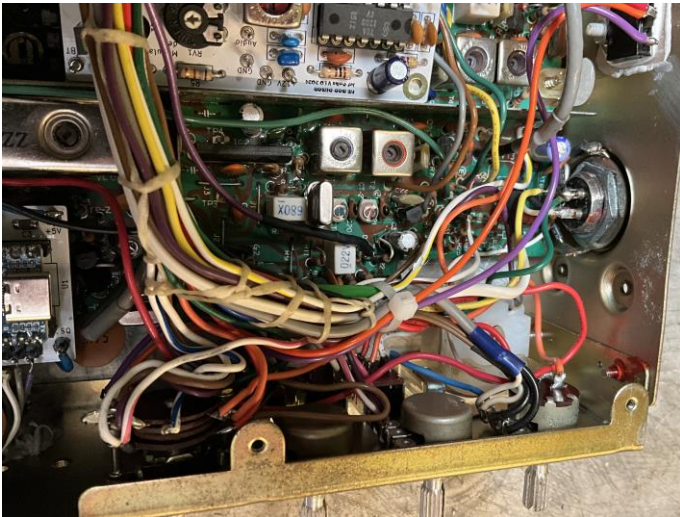


Connect secondary side of modulation transformer T16 (anode of D43) to Mod In of FM module using a shielded cable, connect the shield on one side to a close ground. Since the diode is hard to reach, drill a hole (+- 3mm) on the edge of the PCB to make room for the cable, make sure the shield does not touch the outside frame (use heat shrink).



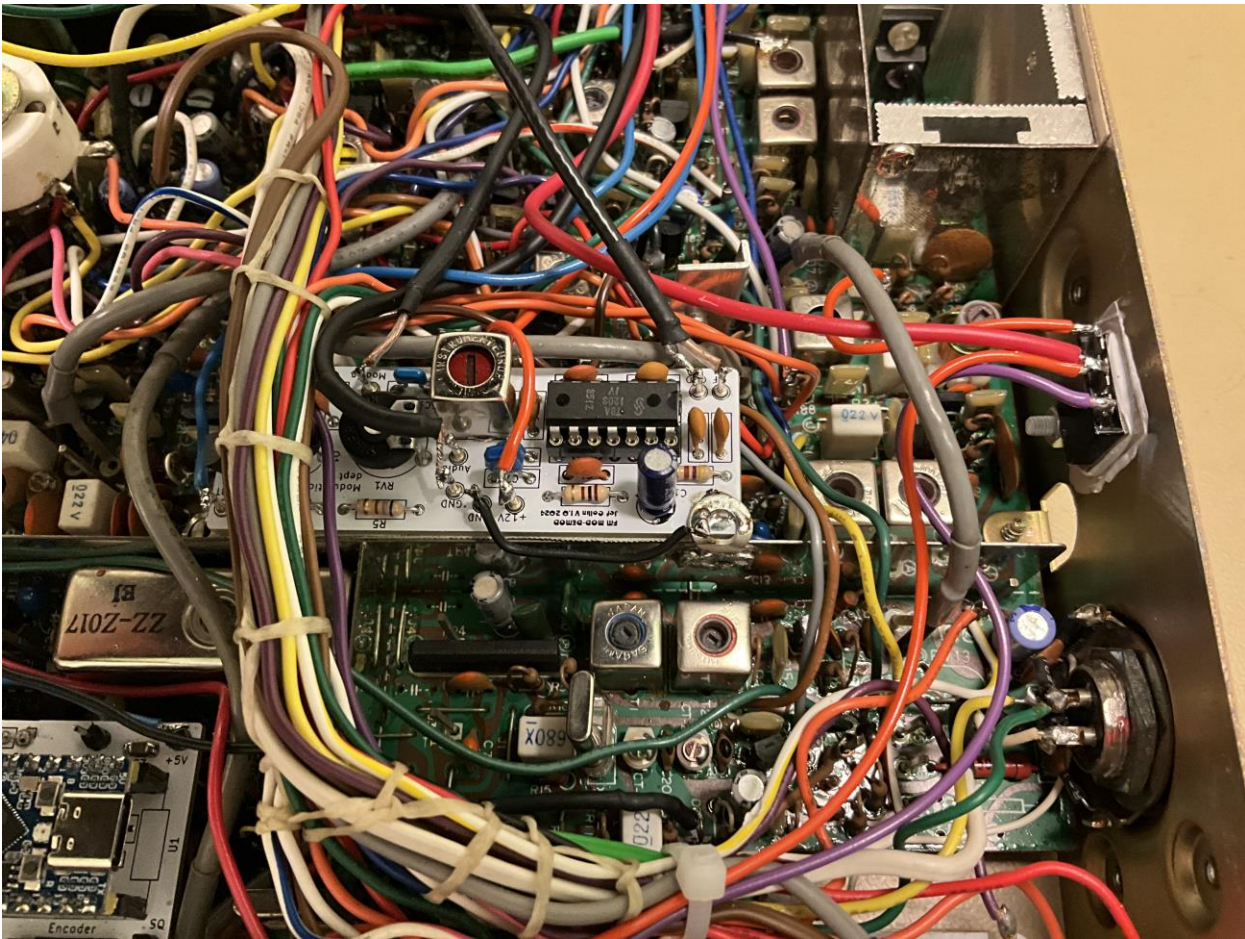
Connect a 100K resistor to cathode of varicap D3.

Connect the other side of the resistor to VariC of the FM module, put a heat shrink over the resistor.





The wired FM module.



Adjust red coil for maximum RX audio out signal and minimum distortion, adjust trimmer RV1 for TX modulation dept (clockwise = more, counterclockwise = less).