

A T/R Switch for your Boat-Anchor Station
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I now have my teen-age dream station consisting of a Johnson Ranger, Drake 2B, and Hallicrafters TO keyer. One last item I needed was a T/R relay. Dow Key relays are getting hard to find and the cost can be high, so I looked into making my own T/R switch.

Lead lengths and their associated inductances are very forgiving in the HF range. The important thing is the relay contact current rating and the relay coil voltage. My Johnson Ranger has a 117VAC relay driver output voltage. A good relay is the All Electronics (www.allelectronics.com) RLY-2120 DPDT w/10 amp contact ratings (\$2.75 each).

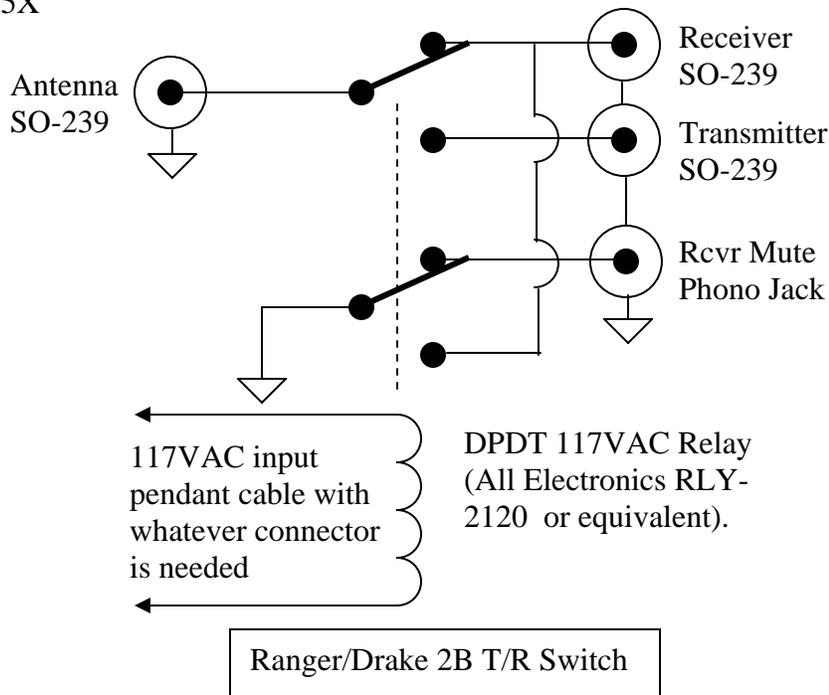
Below is the schematic for the T/R switch. I used SO-239 connectors for the RF interfaces, and an RCA phono jack for the “mute” interface. For a box, you might consider the All Electronics FNS-2 A/B Phone Switch (\$4), though any metal box that fits everything is fine. To mount the relay, I “hot-glued” it to the bottom of the aluminum box. The photos show my final creation.

Notice that the DPDT relay does several things:

- 1) It switches the antenna between receiver and transmitter.
- 2) It provides the necessary “mute” control to the receiver (“ground” for receive, “open” for mute).
- 3) It grounds the receiver antenna input when transmitting.

I use the “mute” function when operating phone with my Ranger. I leave the receiver unmuted for CW, since I want to monitor my signal directly. The combination of fast AGC and a shorted receive antenna input during transmit works very well.

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TR Switch – Inside Wiring



TR Switch – Connector Interface