

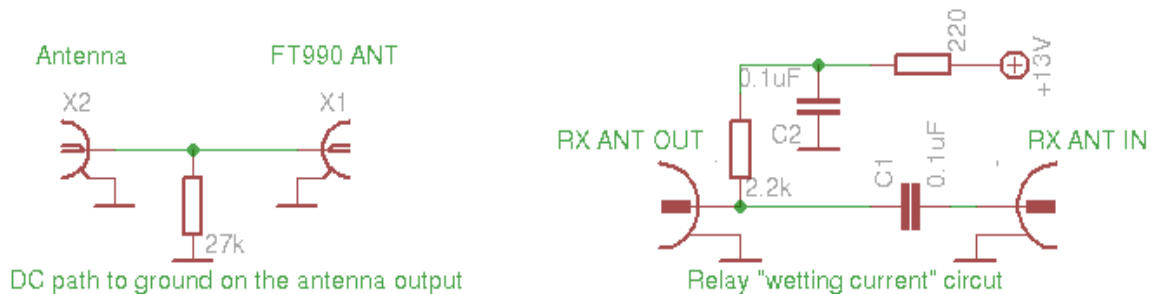
SQ5BPF FT990 External relay wetting circuit

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I acquired a used FT990 that had receiver problems when using QSK CW. After a few QSOs the receiver sensitivity would go down very badly, due to bad contacts on the RX/TX relay in the receive path. The receiver regains sensitivity after some time, sometimes it is possible to regain sensitivity by tapping at the key a few times - sometimes the relay makes a better contact. This is due to lack of a wetting current in the RX path (which is a design error). A small wetting current is used to break the oxidation layer on the relay contacts, extending relay life.

I did not want to replace the AE5343 RX/TX relay RL6106 on the LPF UNIT board. However there is a way to apply a wetting current without any modifications to the transceiver.

FT990 external relay wetting circuit



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I used a 27k 5W resistor to ensure a DC path to ground on the antenna connector. This can be easily made with a Tee connector and a 27k 5W resistor soldered to a socket.

The wetting circuit provides about 0.5mA of current, which is enough to burn through the oxidation layer on the relay contacts. The circuit is connected to the transceiver via the RX ANT connectors on the back of the FT990. The +13V is from any of the external connectors - i used the +13V pin of the REMOTE connector.

To enable the wetting circuit, just press the RX ANT button. While receiving, the current flows via the 220ohm and 2.2k resistors into the RX ANT OUT socket, via the RX/TX relay contacts, and into the 27k resistor (or an antenna in case it's electrically shorted).

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