

A 59-1-1

Ideas on Remote Tuned Antennas

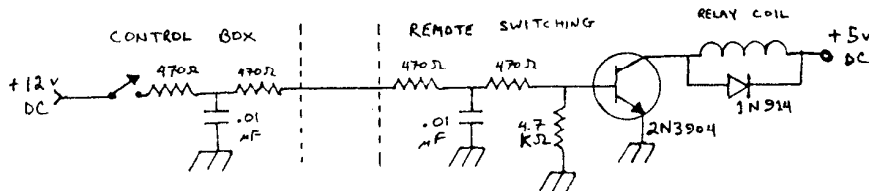
by Mark Connelly

The area of remotely-controlled wire and loop tuners seems ripe for experimentation, as phasers, conventional loops and tuners, and broadband amps are pretty much known. These are designs which can now be considered as building blocks for bigger and better DX enhancing projects.

For apartment-dwellers, the benefits of remotely tuned aeriels should be apparent both from TVI/noise reduction and from signal-maximization viewpoints.

With the advent of varactor diodes having maximum capacitances of over 300 pF (e.g. MVAM 108, MV1401) remote MW tuning seems like a workable concept (see "Varactor Diode Applications" DXM Mar 17/84).

Phasing units and multi-band antenna tuners (see MWDX-2 in Feb 18 & 25/84 DXM, APT-2 in Nov 5/83 DXM, and APT-3 in Feb 11/84 DXM) involve switching, and remote switching is possible using relays. Flicking a switch in a control box next to the receiver supplies voltage to a relay in a remote tuning unit, which then makes the desired contact. The circuit below is a possibility for driving a remote relay:



The relay could be a Radio Shack #275-240. As more complex antenna tuners involve a good number of switches, multi-conductor control cable such as Belden #9261 could be used between the control box and the remote antenna unit, for relay switching as well as for any varactor control and amplifier supply voltages. Shielded coax would be needed only for signal coming from the remote antenna unit.

These are simply ideas at the moment, put forward in the hope that others will also get involved in remote antenna tuning concepts.

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Heathkit now offers its Active Audio Filter, kit #D1418 for around \$130. This is considerably more complex in its interior workings than the common audio filters, as it contains 5 poles (2 is more usual) of low and high pass filtering each variable from 300-2500 Hz. A 30 dB notch/peak filter 200 Hz wide is variable through 300-2500 Hz. And there is a CW filter with variable bandwidth and center frequency. There is an audio amplifier contained in it with a one watt output; the device can be connected to a phone jack or speaker outlet on the receiver. The filter was positively reviewed in the March 1984 QST, and some quite impressive looking spectrum analyzer traces were included in the review.

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Icom has recently put out a new receiver, the IC-R71A. A spec sheet from Ralph Sanserino reveals that this has more bells and whistles than the IC-R70, quotes a higher dynamic range, has a fourth conversion stage, but similar sensitivity and selectivity to the IC-R70. RIT has disappeared, there appears to be bandwidth selection independent of mode (though that may be for CW filters?), there is now a noise blanker level control, and the speaker has moved off the front. Bells and whistles include keyboard entry of frequencies in addition to the tuning knob, 32 tuneable memories and optional remote controller, synthesized voice frequency readout, computer interface etc. etc. More as we hear about it...

