

AN OUTBOARD FERRITE LOOP FOR THE SUPERADIO by Gerry Thomas

As Charlie Barfield and I noted in our initial review of the GE Superadio, this new "TRF" has several things to recommend it. Unfortunately, we also felt that it could stand improvement in a couple of areas. Since the Superadio has gained some acceptance and popularity in recent months, we decided to give a little thought to overcoming what we believed to be some of the more significant of the Superadio's shortcomings.

High on our "wish list" was some means of easily rotating the Superadio to null and peak stations (its weight with six conventional D-cells is close to nine pounds, not the six to seven we had initially estimated). One solution is to simply place the Superadio on a Rubbermaid-type plastic turntable and plug an always-facing-you auxiliary speaker in the earphone jack. A more desirable solution, though, would be an external, rotatable antenna along the lines of the one the RF-2200 uses. Locating the antenna outside of its cabinet environment should also, theoretically, result in an improvement in its nulling ability. What follows is a brief description of a high-gain, rotatable, tiltable, plug-in external ferrite loop for use with larger radios like the Superadio.

In a nutshell, this antenna is simply a relatively large-core ferrite rod antenna (in this case, the Radio West "Shotgun") mounted atop the ball-and-socket head of a table-top camera tripod (Coastar #B-120, "Minipod"). RF signal is gathered from the tuned primary winding of the "Shotgun" by way of a two turn inductive pick-up and is channelled into and through the interior of the tripod's tubing to a standard two conductor, 1/4 inch phone jack which is fitted in the base of the tripod (the removeable legs of which have been removed). This self-contained unit is then plugged into a two conductor, normally-closed female phone jack which is mounted on the top of the Superadio and connected to the radio's RF stage.

Without the antenna plugged in, the standard internal loop is operable and the Superadio performs as stock. Plugging in the outboard antenna disconnects the internal loop and all RF energy is supplied by the external antenna. A 5 kilohm rotary potentiometer was inserted (in series) in the RF line to allow control of gain from the internal loop, the external loop, and any "longwires" attached to, and tuned by, the Shotgun's circuit. The outboard loop rotates infinitely on the phone jacks and tilts in all directions on the ball-and-socket head.

1. The Radio West "Shotgun" works well in this design and looks really nice with the Superadio's cabinet. However, it supplies sufficiently more signal than the stock antenna that, unless an RF gain control is used a slight reduction in selectivity (in certain situations--next to strong locals) is the result. The same thing happens when used with a Realistic TRF so it isn't unique to the Superadio; it just means that an RF pot will improve performance

2. Don't use the leads coming from the variable capacitor box of the "Shotgun" (the loose wire and Fahnestock clip) to make the connection to the Superadio's RF stage. Rather, use a two-turn, #20-#24 gauge inductive pick-up wrapped around the outside of the Shotgun's plexiglass tubing (it isn't necessary to hacksaw your way into the "Shotgun" to add this pick-up, as "Yours Truly" dumbly did). The two ends of this pick-up are terminated at the same points on the circuit board (after travelling through the center of the tripod, to the male and female jacks, and through the RF pot) as the two tiny green wires which come from the internal loop and are its secondary winding.

3. The weight of this outboard antenna assembly is such that the strongest male and female phone jacks you can find are recommended (the best I've

found are the Switchcraft, e.g. 14B, 14BP1, although the Calectro F2-837 holds up pretty well). Avoid the temptation to use the jacks with the molded plastic-enclosed contacts. The contacts are very flimsy and will short out in a few days.

4. If you don't want to use the "Shotgun" (either because of its weight, price, or sometimes excessive signal output), you can construct a creditable alternative using one (or two, cemented end-to-end) Amidon ferrite rods (\$2.50 each plus postage from

Amidon), wound by yourself, and tuned by a 365 pF miniature variable capacitor (e.g. Calectro #A1-232) that has been housed in a mini-box and mounted atop a length of PVC pipe (in which the ferrite rods will be installed).

5. Any hollow-bodied, table top tripod (with removable legs) can be used, but shop around. The "Coastar" cost \$4.93 at a Pensacola discount house but was seen in a Boston camera store last summer selling for \$12.95!

6. The only jury-rigging required in this project involves fitting the male phone plug in the base of the larger-diameter tripod body...try PVC plumbing fittings (the "Coastar" takes the 1/2" diameter ones).

There you have the main construction points of the antenna. After having used this radio/antenna combination for the past couple of weeks, I am impressed not only with its improved ease of use, but also with its gain and nulling ability. At equal RF levels, the outboard creates deeper nulls than the stock antenna but, since the RF pot is operable on both, it is possible to null most of my locals into the noise with either. (For further details on this design, contact Gerry Thomas, c/o IRCA HQ)

