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TECHNICAL CORRESPONDENCE

BUILDING A FERRITE CORE ANTENNA CURRENT PROBE

◊ I found the article in the February 2009 issue of *QST* by Eric Nichols, KL7AJ, about antenna currents, interesting. The discussion in the last paragraph, concerning the use of ferrites to monitor relative RF currents, was especially informative.

That thought led me to put 12 turns of no. 26 AWG wire on one side of a snap on ferrite choke core I had in my junk box. See Figure 1. Hooking the wires to a short piece of coax and snapping the core to one leg of my window line (perfect fit in the window) gave a nice display on my scope when on 40 meters. Figure 2 shows the core snapped into one of the "windows" in my feed line.

My next thought was to build a detector with a meter, but why build one since I already had an old CB style SWR meter. Most of these meters had a threaded stud on the top for an antenna, which would display relative RF when placed near an antenna. I added a BNC connector next to the stud, added a resistive pad between the BNC connector and the antenna stud, and moved the detector diode from the meter to the sensitivity/set potentiometer.

The resistive pad was necessary because the voltage was too high. I found the resistor value by trial and error using 100 W and 600 W output through a tuner to the window line. Figure 3 Part A shows part of the original meter circuit and Part B shows the modified circuit. Figures 4 and 5 show the modifications inside the meter case.

I now have a very inexpensive relative current meter, and yet the meter remains a fully functional SWR bridge when not connected to the ferrite pickup. The only difference from the original bridge is that when used as a field strength meter it has a variable sensitivity control. The next project is to put a ferrite in a small box to use the meter to monitor the current on a coax line. — *73, Allen Wolff, KC7O, 57 W Grand View Ave, Sierra Madre, CA 91024*; **kc7o@arrl.net**

CLEANING UP AGC-INDUCED AUDIO DISTORTION IN THE YAESU FT-1000

◊ Ever since the FT-1000 was introduced, there have been various complaints about the audio quality of the main receiver due to AGC-induced audio distortion. For an example, see the March 1991 *QST* Product Review of the FT-1000. The main receiver

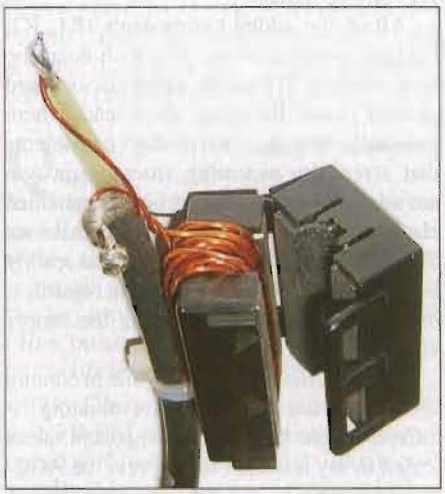

Figure 1 — This photo shows 12 turns of no. 26 AWG enameled wire wound on one side of a snap-on ferrite choke, with a length of coaxial cable attached to the wire ends to form an RF current probe.

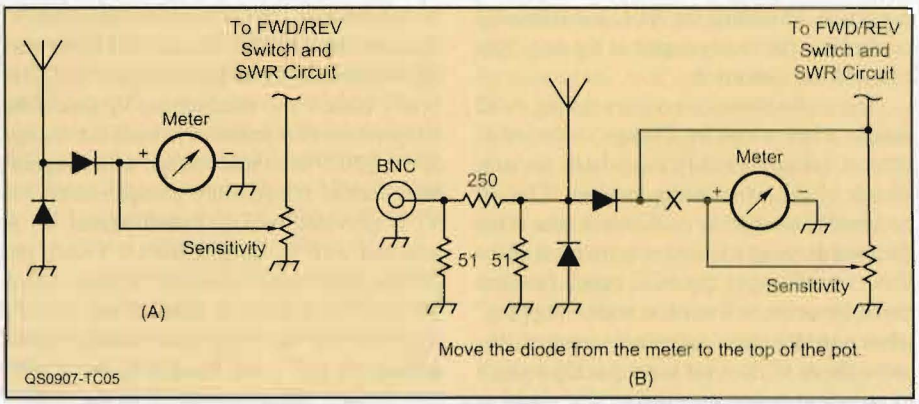

Figure 3 — Part A shows the portion of the SWR meter schematic diagram where the circuit will be modified. Part B shows the diode removed from the meter terminal and connected through the sensitivity adjustment potentiometer.

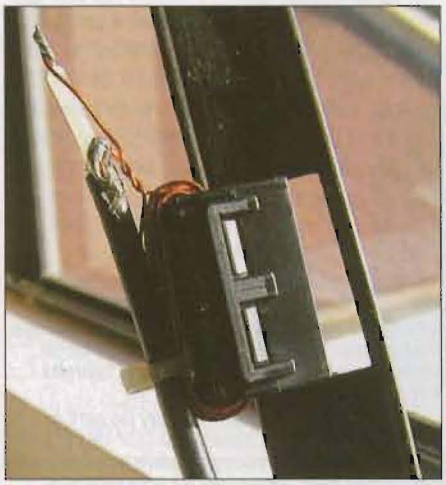

Figure 2 — Here, the snap-on ferrite choke is snapped in place over one of the wires in a piece of window line parallel feed line.

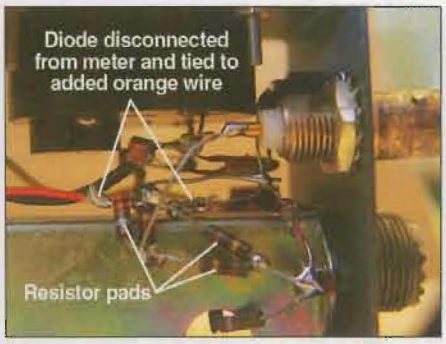

Figure 4 — This photo shows the diode that was disconnected from the meter movement, with that end tied to a new (orange) wire. You can also see the resistors that make up the resistive pad between the RF current probe input and the diodes.

Figure 5 — This wide view inside the SWR meter case shows the new (orange) wire connecting the end of the diode removed from the positive meter terminal with the sensitivity potentiometer.

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