

Fig. 8 — Stephen Konopka suggests this modification of the Touch-Tone pad circuit illustrated on page 439 of the 1977 *Handbook*. He indicates the change improves keying and frequency stability.

used the *Handbook* as a reference.

I would like to offer an improvement on a circuit described in the 1977 edition. Page 439 shows connections for making a standard Touch-Tone pad operable. While the unit does function as described, I find that oscillation starts somewhat slowly and the frequency tolerance is below that of the capability of the pad. My offering is the result of experimentation and studying a Bell System manual concerning the subject.

A simple connection change will result in proper operation. I am providing a revised diagram (Fig. 8). The change results in sharper keying and better frequency stability. — Stephen A. Konopka, Green Bay, Wisconsin

THE HW-8 AND THE ACCU-KEYER — A GOOD CW TEAM

□ In the process of modifying my HW-8, I built and installed an Accu-Keyer inside this QRP rig. The circuit is taken from the *Handbook*. To begin this addition, take off the front panel of the transceiver. Remove the bandwidth switch and in its place insert the speed control potentiometer for the keyer. Mark the size of the potentiometer on the inside of the chassis. Then, remove the potentiometer. Just to the left of the band switch there is space for a toggle switch. Mark the location for the switch hole, replace the panel and carefully drill the hole. Then once again remove the panel. Mount the speed control and the switch on the chassis with nuts and lock washers. These provide the correct spacing between the chassis and front panel. Tighten them securely and replace the front panel. Use an additional nut on each new control. Connect the leads from the bandwidth switch to the new toggle switch, positioning the wires carefully. I use *up* for wide and *down* for narrow.

Drill a hole and mount a 1/4-inch (6 mm) 3-conductor phono jack on the rear panel. Make two small holes for mounting the keyer board. I leave ample room for clearance between the keyer board and the "cats" standing up on the main circuit board. Connect the dot, dash and ground input leads from the keyer to the 1/4 inch (6 mm) jack. Install the wires from the speed control potentiometer to the hand-key jack.

The +5 V needed for the keyer may be taken from the power switch in the HW-8. To regulate this voltage, I installed a 5 V, 1 A voltage regulator which I mounted on the rear

wall of the HW-8. The wall serves as a heat sink and a chassis ground.

A 2500:8-ohm output transformer, inserted in the audio output of the HW-8, provides enough audio to drive a loudspeaker that can be heard even when operating mobile. This addition does not prevent the use of headphones.

My modification plans also include the RIT/QSK circuit changes described in July 1977 *QST*. By moving the preslector peaking capacitor to the rear panel, the mounting hole left vacant by the capacitor provides a suitable location for the RIT control. There is also room on the panel for a spotting switch. I prefer to use an spdt push-button type for this purpose.

If you wish to refinish the panel of an HW-8, paint can be prepared by a paint dealer so that it will closely match the light Heathkit green. New labels are easily made with dry transfers. When refinished, the set should look as good as new. — Bill Inkrote, Jr., K2NJ, Flemington, New Jersey

[Editor's Note: Carl Youngs, W3NWS, notes that a wrinkle-finish paint closely matching the Heath panel color is packaged in a spray can by the Illinois Bronze Powder and Paint Company, Lake Zurich, IL 60047. The color is Celestial Blue, No. 338. Many local hardware stores carry products from this firm. Attention is also called to the painting idea suggested by Carl Nebelsky, AA1U, in Hints and Kinks, *QST*, March 1979.]

OLD TIMER'S NOTEBOOK: A THREE-ELEMENT WONDER BAR FOR 10 METERS

□ When the Wonder Bar antenna was reintroduced in Hints and Kinks (April 1980 *QST*) in response to reader inquiries, I recalled how I adapted the Wonder Bar design to a 3-element beam. Because this antenna performed so well

on 10 meters, I thought some *QST* readers may wish to try my scheme. Essentially the antenna consists of three bow ties arranged and spaced as indicated in Fig. 9. Only the middle element is driven with the end elements parasitically operated.

Each element is constructed with aluminum tubing in a similar manner to that described in Hints and Kinks. The center insulator for each element is made from Plexiglas and is mounted to the boom by an aluminum angle. A two-turn link, connected to the transmission line, is placed at the center of the middle radiator coil.

Use of a dip oscillator will enable the builder to check the resonant frequency of the antenna. Element tuning is accomplished by spreading or compressing the coils to obtain resonance at the desired frequency.

Because this antenna is effective yet inexpensive, it should appeal to 10-meter enthusiasts. Connections and the terminating end of the transmission line should be weatherproofed. — Frank Masho, W3CBM, Springfield, Pennsylvania

NEUTRALIZING HINT

□ An ordinary vacuum-tube voltmeter, coupled by means of an rf probe to the output circuit of a transmitter, serves well as a sensitive "feed-through" indicator while neutralization adjustments are being made. With excitation and filament voltage applied to the final amplifier tube (be sure to kill the plate and screen voltages), adjust the neutralizing capacitor for minimum reading on the VTVM.

If the transmitter is completely shielded and coupled to a coaxial output line, insert a coax T-coupler between the amplifier and the line to provide a tap point for rf probe. — F. L. Clark, W6ZM, La Crescenta, California, Hints and Kinks for the Radio Amateur, 1959.

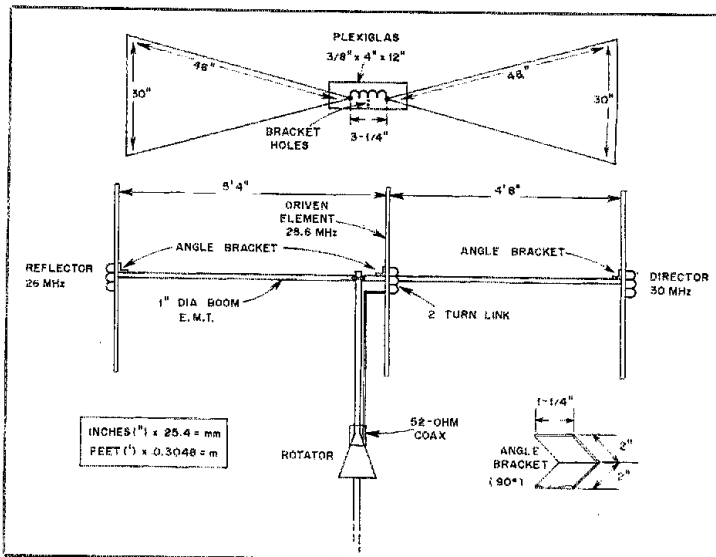


Fig. 9 — This version of the Wonder Bar antenna was originally used at W3CBM back in 1957. Construction of the elements is similar to the method described in Hints and Kinks, April 1980. The tuning coils are made with no. 12 aluminum wire. Coil dimensions are: Reflector — 14 turns, 1 inch (25 mm) dia. Driven element — 12 turns, 1 inch (25 mm) dia. Director — 10 turns, 1 inch (25 mm) dia. Coil length — 3-1/4 inches (83 mm). Angle Brackets — Three 1-1/4 in. long brackets are required and can be made from 2-inch aluminum angle stock.