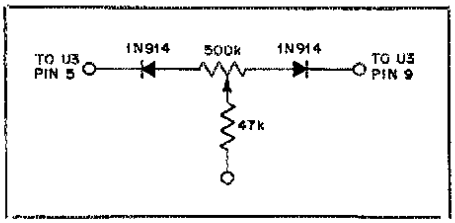
Hints and Kinks

A WEIGHT CONTROL FOR THE ACCU-KEYER

The WB4VVF Accu-Keyer (*QST* for August, 1973) and The Accu-Memory (*QST* for August, 1975) are without doubt the most-built construction projects ever to appear in *QST*. The Accu-Keyer is a first-class device, yet economical to build. It provides sending that contains a precise dash-to-dot length ratio of 3:1 suggested by Samuel Morse many years ago.

Nevertheless, many seasoned operators have found the apparently unalterable 3:1 ratio, as set up by the keyer logic, a disadvantage. For instance, a T may be mistaken for an E or part of a letter preceding it. Miscopying a 4 as a 5 has driven many a Southeasterner up a wall during cw contests. A weighting larger than 3:1 accentuates the difference between dots and dashes, alleviating such problems at high speeds and under poor conditions.

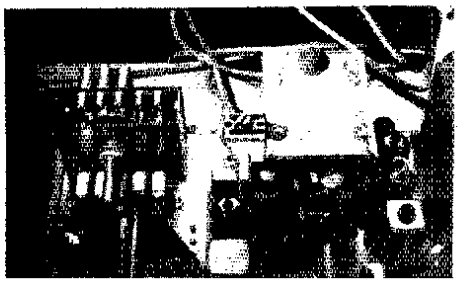
Changing the weighting at the keyer may also compensate for unwanted weighting changes caused by transmitter operation or a keyed antenna relay. The change is accomplished by altering the clock speed slightly by different amounts during the dot and dash intervals. This is done by feeding the Accu-Keyer dot-present and dash-present lines back to the clock-speed-determining components through appropriate diode steering. The keyer logic continues to count out what it perceives to be a perfect 3:1 ratio, but is fooled by having the counting rate altered by adjustment of the clock frequency. Although the circuit shown is for the Accu-Keyer, the principle is applicable to most electronic keyers which use a single clock. A weight control may also be added to the Accu-Memory. — *Hal Kennedy, N4GG*



A weight control addition for the Accu-Keyer. References are to the original Accu-Keyer schematic diagram.

A TRIMMER CAPACITOR FOR THE DRAKE 4 SERIES

Some owners of the Drake R-4A and R-4B receivers have experienced difficulty keeping the transmitter and receiver on the same frequency while in the transceive mode. Drift of the receiver carrier oscillator is responsible. Separate-frequency operation easily leads to signal leapfrogging with each operator trying to zero beat the other station.



Alignment of either the Drake R-4A or R-4B receiver is simplified by means of this small variable capacitor.

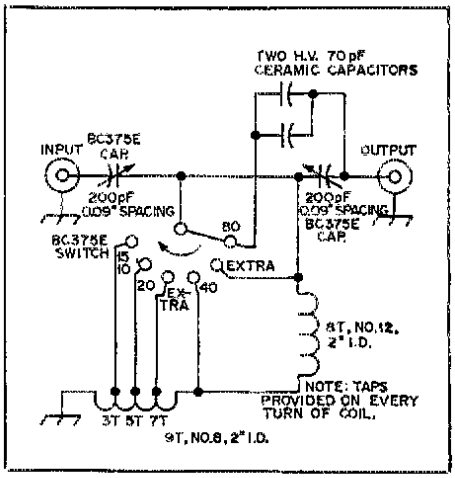
Aligning the Drake receiver is rather awkward. I simplified the procedure by installing a small variable capacitor (1-10 pF) in parallel with C61. The trimmer, visible in the photograph, is soldered to the VFO cabinet by means of one leg. The other leg is connected to a lead that passes through a nearby grommet and terminates at the ground side of C61. The trimmer may be reached by a small screwdriver inserted through a hole in the cabinet.

Place the receiver and transmitter in the transceive mode with the function switch on. Depress the microphone button. Adjust the trimmer so that the birdies become a single tone, indicating that the two oscillators (transmitter and receiver) are zero beat. — *Stan Dicks, WB8HAT*

AN INEXPENSIVE ANTENNA TUNER

Roller inductors and differential capacitors can be quite costly. A suggestion in one of Walter Maxwell's *QST* articles encouraged the construction of the tuner illustrated in the circuit diagram shown on these pages. It eliminates the shunt part of the differential capacitor used in *The Radio Amateur's Handbook* Universal Transmatch, and uses junkbox parts from an old BC-375E tuner and two homemade coils. The unit has been used with 2 kW PEP ssb and 1 kW cw with no voltage breakdown.

Although only six switch positions are available, extra coil taps permit changes to enable matching a particular antenna system to a transmitter. At this station, the six taps used have permitted the matching of several different types of antenna systems with SWR values varying from 1.0 to not over 1.5. The most regularly used antenna is a 107-foot dipole, fed with 30 feet of 300-ohm, TV line. A 4:1 balun at the bottom of this line permits a short length of coaxial cable to be brought into the shack. Lengths of RG-8/U up to 50 feet have been tried with satisfactory results. — *William L. North, W4BX*



Variable capacitors and a band switch from a military surplus BC-375E tuner are used in this inexpensive antenna-matching system.

MICROPHONES AND THE TS-520

This information is primarily for amateurs who are not fully satisfied with microphone performance in conjunction with their TS-520 transceiver. My Turner +3 preamplified microphone gives sufficient gain but, like some other microphones, it tends to provide more low-frequency response than high.

A simple modification to increase the high-frequency response is to insert a 0.001-μF capacitor in series with the hot lead from the microphone. If an even higher frequency response is desired, the series capacitance should be decreased in 100-pF steps until a desirable response is reached. — *Edward G. Harris, WA2INE*

FM BCI ON THE MFJ CW FILTER

My MFJ CWF-2 cw filter picked up fm-broadcast interference from a station less than a half-mile away, even though shielded cable was connected between the filter and the receiver. The problem ended after I connected a lead from the ground terminal on the back of the filter to the terminal strip mounting screw, providing a direct chassis ground. With the original wiring, the filter ground terminal was connected to chassis ground by way of filter wiring. Now everything is fine. — *John E. McKeen, W1TN/W1BDK*