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QST Issue: Apr 1979
Title: Holding Heath Relay
Author: David Shaffer, K3NXO/8

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Hints and Kinks

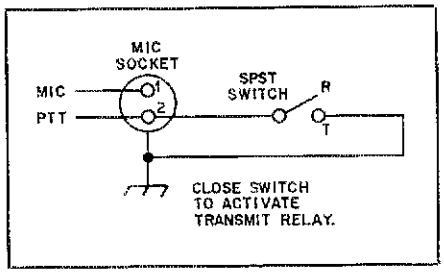
AUTOMATIC OUTPUT POLARITY FOR THE ACCU-KEYER

May I offer yet another modification for the ubiquitous Accu-Keyer (*QST* for August 1973, August 1975 and July 1976). The simple circuit change shown in the accompanying diagram solves a problem for the amateur who uses rigs with both grid-block and cathode keying. The selection of proper polarity becomes automatic by means of diodes. With this arrangement the Accu-Keyer may be used with a variety of transmitters or transceivers without worrying about the polarity of the voltage.

This modification is built on the WB4VVF board with just a few parts added between the output of Q4 and the terminal for the grid-block keying. The cathode keying circuit may be built on a 1 × 1-1/2-inch (25 × 38-mm) perforated or printed circuit board. My Accu-Keyer/Memory is now in use with my solid-state 2-meter transceiver which has positive-to-ground keying. It is a welcome "third hand" when operating through OSCAR 7 and 8. — *Bruce Balla, VE2QO*

HOLDING HEATH RELAY

An easier way to hold the HW-100 or the HW-101 relay in the transmit position than that suggested by WA1STQ ("Hints and Kinks," March 1978 *QST*) is to install a switch as shown in the accompanying diagram. This method requires only a spare microphone plug and the switch. There is no modification of the transceiver. — *David Shaffer, K3NXO/8*



This circuit permits the HW-100 or HW-101 transmit relay to be held in the ON position while using cw.

NEW BATTERY IMPROVES MICODER QUALITY

A common problem arising with the Heath HW-2036 2-meter transceiver when used with the older HW-1982 Micoder is poor audio quality after several weeks or months of operation. The symptoms are reports of failing audio quality and fuzziness of audio levels, both of which may disappear after turning off the receiver for a length of time. In my particular case I thought that the problem was one of those mysterious intermittents that might never be found.

Conferring by phone with the "hams at Heath" I was advised that the fault was simply an aging battery in the Micoder microphone. Unlike ceramic microphones, a battery is necessary to charge the capacitive element in the microphone of the Micoder. This element drives the first IC in the audio chain. A cure, until a battery failure again occurs, is to install a *good*-quality alkaline battery. — *John F. Marthens, WA6TKN*

NEW HIGH-PERMEABILITY FERRITE ROD

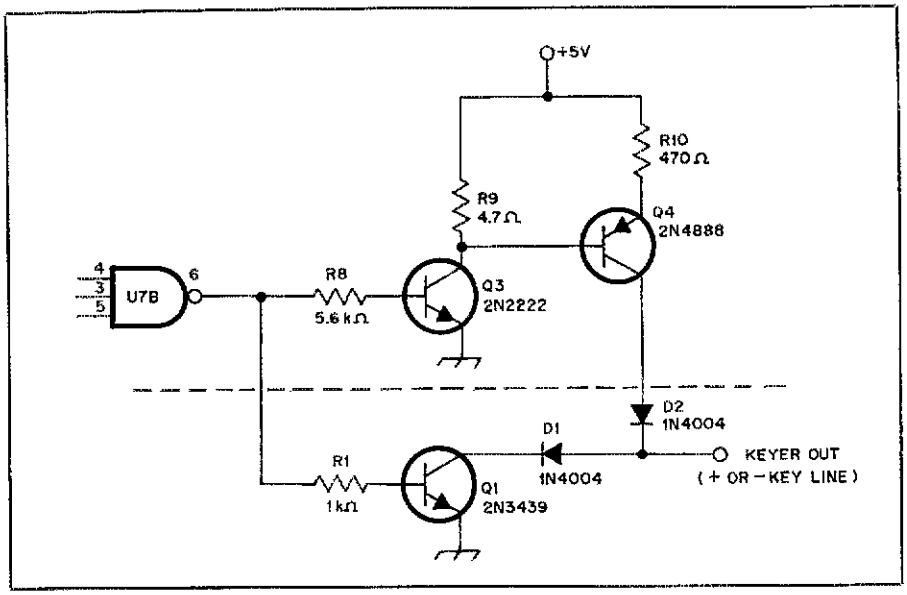
Previous ferrite rods on the market have had permeability that is too low and length that is too short for use as a satisfactory filament choke for grounded-grid amplifiers to be operated on the 160-meter band. As a result rf gets into the filament circuit and consequently into the 117-V ac line.

Amidon Associates, 12033 Otsego St., North Hollywood, CA, 91607, has released a ferrite rod with a permeability of 800. It has a diameter of 1/2 inch and a length of 6 inches.

Those amateurs who wish to use this new rod will do well to wind the coil on a wooden dowel and then slip the coil onto the rod, a procedure which will prevent breaking the ferrite. A suitable wire size should be employed to carry the filament current. For my 811s I use no. 14 enameled wire. Further information about the Amidon rod no. 30-33-7 may be obtained by writing to Mr. Jim Cox at Amidon. — *Ed Marriner, W6XM*

[Editor's Note: To ensure effectiveness of the bifilar-wound filament/cathode choke, the X_L should be approximately 4 or 5 times the input impedance of the grounded-grid amplifier. An acceptable rule-of-thumb value for most rf power amplifiers is to assume a maximum Z_{in} of 200 Ω at peak drive periods. Therefore, X_L for the choke winding equals 800 Ω minimum, which at 1.8 MHz requires an inductance of 70 μH. This can be checked by placing a 110-pF capacitor in parallel with the choke winding and checking for resonance by means of a dip meter. The 7-1/2 × 0.5-inch (191 × 13 mm) Amidon rod (μ_i = 125) is satisfactory, but the 4-inch (102-mm) rod is not. Since Q is not an important factor in the choke, the Amidon 6-inch (152-mm) rod (μ_i = 800) specified by W6XM will provide considerably higher X_L than the minimum requirement of 4 × Z_{in}, which is excellent.]

Modification of the Accu-Keyer/Memory for keying both positive and negative lines. Additions to the original circuit are shown below the dashed line. A junk-box variety transistor may be used.



A MORSE TELEGRAPH CODE CONVERTER

This circuit for a Morse telegraph converter should interest many amateurs who are ex-telegraph operators. I built it and find that it works very well. I pipe the W1AW transmissions from my receiver through the converter which provides the activating signal for my telegraph sounder. (I'd be interested in hearing tapes at W1AW sending between 60 and 70 wpm.)

While the circuit diagram calls for a 150- to 400-ohm sounder, my converter works very well feeding a 20-ohm sounder. The self-contained bridge-rectifier power supply provides 35 to 40 volts dc. All diodes are silicon rectifier types. The diode across the sounder prevents magnetic kickback of the sounder coils from damaging the single npn silicon power transistor. The power transistor may be