

at a potential of approximately -0.7 volt (the potential difference across the forward-biased D1, assuming that silicon diodes are used). D2 must have a minimum peak-reverse-voltage (PRV) rating of approximately twice the keying voltage developed by transmitter 1, as D2 is reverse biased by transmitter 1 during key-up conditions.

Transmitter 2 is keyed by passing current through D2 when the key is closed. During the key-down condition, the key is at a potential of approximately $+0.7$ volt (the potential difference across the forward-biased diode, D2). D1 must have a minimum PRV rating of approximately twice the keying voltage developed by transmitter 2, as D1 is reverse biased by transmitter 2 during key-up conditions. The current rating of almost any diode will be more than adequate for this circuit, as most transmitter keying circuits operate at maximum (key down) currents of less than 50 milliamperes. The transmitter not intended for use should be turned off or in the standby mode while keying the other transmitter.

This circuit has worked well for more than a year, while being used with a Swan 500 (vacuum-tube transceiver) and a Kenwood TS-700SP (solid-state transceiver). The diodes contain both junction capacitance and bulk resistance, thereby "softening" the keying waveform, to minimize the tendency for key clicks. During the time this circuit has been in use, it has not been necessary to add R-C filters to the keying circuit to modify the keying waveform.

Two Solid-State Rigs?

The circuit in Fig. 2 will work only in cases where the two keying lines are opposite in potential. Thus, if the reader desires to connect two solid-state or two tube-type transmitters safely, a slightly different circuit must be used. In Fig. 3 a diode is connected in series with each of the two keying lines and the keying lines are connected in parallel. These diodes effectively isolate the voltages. Again, the transmitter not intended for use should be turned off or in the standby mode while the other unit is being keyed.

One final note is that both of these circuits will work with a manual key or an electronic keyer utilizing a relay in the output circuit. The circuit in Fig. 3 should work with a keyer having electronic switching in the output; however, the circuit in Fig. 2 should not be used with this kind of keyer. It will be necessary to add a relay to the keyer in order for it to work with the circuit in Fig. 2.

Now that you have seen a couple of different ways to safely connect two voltage sources you may want to consider other equipment in your shack that can be simplified. Where else can you use diodes to isolate one voltage source from another?

□□□

Strays

ARRL FILM BOOKING INFORMATION

□ The new ARRL film, "The World of Amateur Radio," is distributed on 16-mm film by Modern Talking Picture Service, Scheduling Center, 5000 Park St. North, St. Petersburg, FL 33709, Tel. 813-541-6661. For regular ordering, three weeks or more before show date, mail your order to the scheduling center. For short notice showings, 10 days to three weeks before show date, telephone your order to the scheduling center. If possible, indicate acceptable alternate show dates. If the agency cannot supply the film for a convenient date, contact your division director (see *QST*, page 8), who has a print that may be available. — *Marge Tenney, WB1FSN*

ATTENTION AFFILIATED CLUBS!

□ Do you know that an officer of your club receives a quarterly newsletter, "Radio Club News," from the ARRL Club and Training Department? If it's addressed to you, why not pass it around to the rest of your club? — *Sally O'Dell, AE8P*

MILLIWATT FIELD DAY TROPHY

□ The Milliwatt Field Day trophy is still being offered to ARRL Field Day participants. The award is limited to one-transmitter, two-operator stations using a maximum output of 5 watts. To compete for the trophy, interested people should submit a copy of the official ARRL FD summary sheet along with a declaration that a power output of 5 watts was not exceeded. Also send an indication whether or not operation was portable, away from home QTH, and type of power source used.

Scoring is one point per QSO times power multiple (5-watt output = $\times 4$, one watt output = $\times 5$) times 1.5 for battery/solar/wind power, plus 150 bonus points for full portable operation. Send applications to Ade Weiss, K8EEG, 83 Suburban Estates, Vermillion, SD 57069.

LIFETIME NOVICE?

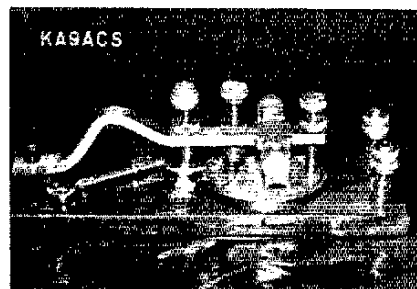
□ Charles Royall, WD5CJI, has been a Novice for four years and plans to remain a Novice. In his words: "I have no desire to work any mode other than cw." He goes on to say: "It's against all teachings. Supposedly, a person should be wanting to upgrade, but not me. I enjoy being a Novice and helping other Novices." He



Charles Royall, WD5CJI, of Denver, Colorado, has used this antenna arrangement to obtain WAS on 15 meters. His next objective is DXCC. (WD5CJI photo)

has 120 hours of radio theory and copies 100% at 40 wpm, but just likes being a Novice!

Charles began using the mobile antenna shown in the photograph when he moved to Denver, Colorado. It is mounted on a metal picnic table on the veranda of his second-floor high-rise apartment. With the mobile antenna he has obtained WAS on 15 meters, plus 25 countries. DXCC is his next objective. Charles also operates mobile cw with his Swan Astro 150 while his wife drives the family car. He says that Novices get a kick out of working his Novice mobile cw station. We're sure he'd like to hear from other Novices who operate mobile — if there are any!



This handcrafted, all brass, straight key is the work of Charles L. Wertz, KA9ACS, of Antioch, Illinois. Made from 1/4-inch brass, the handsome unit is mounted on a black walnut base. (KA9ACS photo)