

## RELAY MULTIVIBRATOR

AMONG THE EARLIER MULTIVIBRATORS, one of the simpler models was a device using two relays and one or more capacitors and resistors to control the timing cycle and operating frequency. When it comes to small size and speed, all is in favor of the solid-state electronic multivibrator.

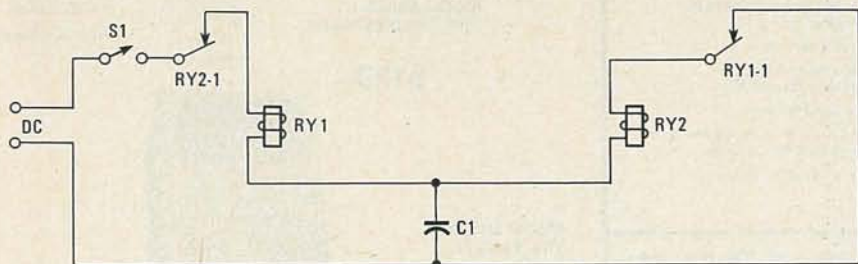


FIG. 1

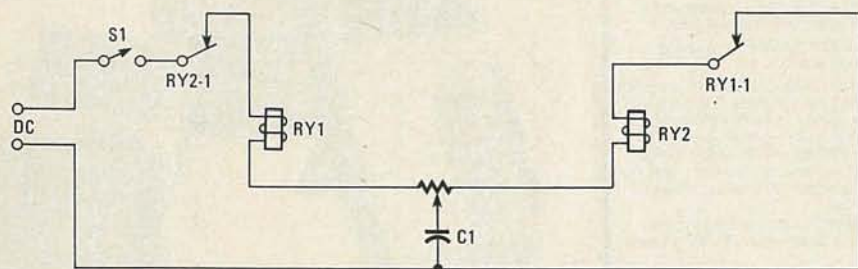


FIG. 2

However, from time to time we may need the simplicity of the relay multivibrator. Most circuits shown in literature use the charging of a capacitor to control the timing and one or more resistors to limit the discharge current so it won't damage the relay contacts. The circuit in Fig. 1 was developed around two relays and a single capacitor to perform the same tasks as the more elaborate circuits.

Circuit operation is as follows: When switch S1 is first closed, the C1 charging

current activates relay RY1 and causes its normally closed contacts (RY1-1) to open. When the C1 charging current falls below the hold-in rating of RY1, the relay releases and closes contact RY1-1.

At that moment, the coil of RY2 is connected across C1. The capacitor starts to discharge and the discharge current energizes RY2 and causes contact RY2-1 to open. When the discharge current drops below RY2's hold-in current rat-

ing, contact RY2-1 closes to start the cycle anew. The multivibrator will switch back and forth between the relays at a frequency governed by the capacitance of C1, the resistance of the relay coils, the applied voltage, and the hold-in current of the relays. As the relays cycle, switching operations can be carried out as needed by auxiliary contacts on either or both relays.

A potentiometer can be inserted between the relays as in Fig. 2 so you can vary the cycling.—*J. Ofer*

