

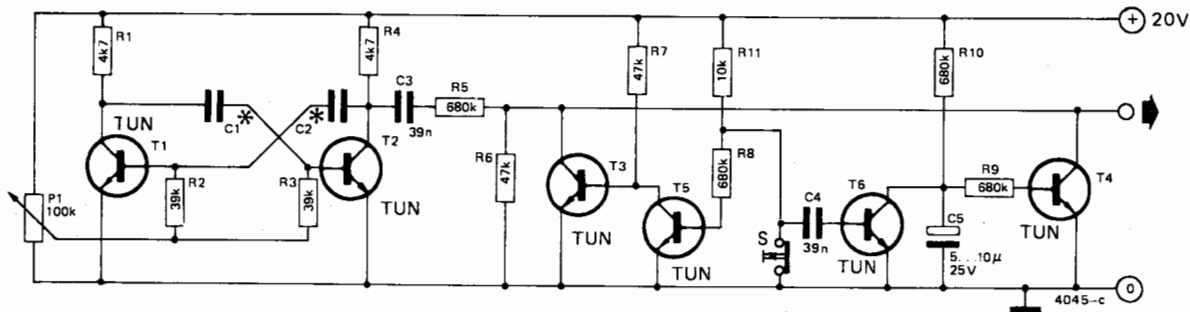
# string sound

This circuit can be used to give quite a natural imitation of a vibrating string. An astable multivibrator consisting of

transistors  $T_1$  and  $T_2$  produces the fundamental tone. As long as switch  $S$  is not operated, the two transistors  $T_3$  and  $T_4$  are conducting, and thus the multivibrator output is short-circuited. When  $S$  is operated, the short-circuit is removed, and  $T_5$  is turned on whilst  $T_3$  is cut off. At the same time  $T_6$  conducts momentarily,  $C_5$  discharges and  $T_4$  is thus also cut off. The generator signal now occurring at the output slowly disappears as capacitor  $C_5$  charges again. If

$S$  is closed before the tone has disappeared, it is abruptly cut off because  $T_3$  is turned on again.

With this circuit a tone can be produced whose frequency depends on the setting of  $P_1$  and on the values of  $C_1$  and  $C_2$ . The values for these capacitors can be determined by experiment; they will generally be chosen in the range 1 ... 10 n. If several of these stages are interconnected via resistors, a simple synthesizer can be built. ◀



\* see text