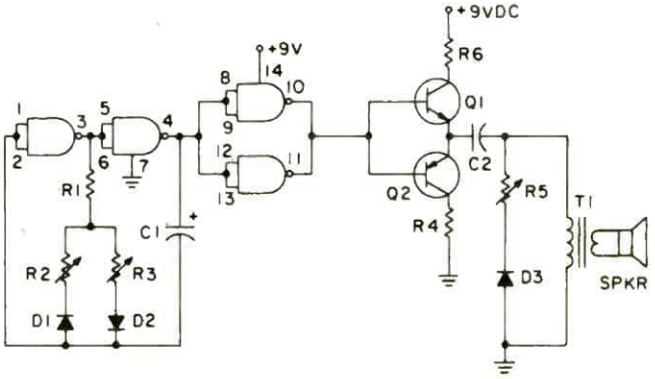
27 Metronome

☐ Transforming IC pulses into sound, this tiny ticker goes both tick *and* tock, at a rate of about 2 seconds per tic to 6 tocks per second. The timing capacitor, C1, should be a low leakage mylar type

PARTS LIST FOR METRONOME

C1—2 to 5-uF low-leakage mylar or tantalum capacitor, 15 VDC
C2—2.2 to 10-uF electrolytic capacitor, 15 VDC
D1, D2, D3—1N4148 diode
IC1—4011A quad NAND gate
Q1—2N4401 transistor
Q2—2N4403 transistor
R1—47,000-ohm, ½-watt resistor
R2, R3—500,000-ohm linear-taper potentiometer
R4, R6—10-ohm, ½-watt resistor
R5—1,000-ohm linear-taper potentiometer
T1—audio output transformer 500-ohm primary/8-ohm secondary



of about 2-uF or else a quality tantalum of about 4.7-uF. Although the reversed flow of current through the transformer's primary winding causes a different sound in the speaker from the positive-going inrush, diode D3 and potentiometer R5 can be added to make the "tock" more definitive in its sound quality.