
9 Pseudo-Random Sequence Generator

□ A pseudo-random sequence generator is like a scrambled counter. Instead of counting 1,2,3,4,..., the PRSG might yield an output of 2,9,7,1... The PRSG shown here supplies a sequence of 255

scrambled numbers, available in binary form at the eight outputs (Q1 through Q8). Some applications:

First, you might hook up an LED and a 330-

ohm resistor to each output as illustrated. Use a 5- μ F electrolytic capacitor for C3, and you'll have a dandy idiot box, which will blink impressively on your desk, but do nothing.

Or, you could hook up the resistor network diagrammed, and use a 330 pF polysyrene

capacitor for C3. You'll get a 1-volt peak-to-peak noise voltage at J1 which can be used to generate interesting percussive sounds in conjunction with the Musical Modulator presented elsewhere in this issue.

PARTS LIST FOR PSEUDO-RANDOM GENERATOR

C1—0.1- μ F ceramic disc capacitor, 35-WVDC

C2, C5—100- μ F electrolytic capacitor, 10-WVDC

C3—5- μ F 10-WVDC electrolytic or 330-pF polystyrene capacitor (see text)

C4—1.0- μ F mylar capacitor (non-polarized), 35-WVDC

IC1—555 timer integrated circuit

IC2—74164 shift register integrated circuit

IC3—7486 quad EX-OR gate integrated circuit

J1—phono jack

LED1 thru LED8—Light-emitting diode

R1, R2—6800-ohms-ohm, $\frac{1}{4}$ -watt 10% resistor

R3—100,000-ohm linear-taper potentiometer

R4-R6—1000-ohm, $\frac{1}{4}$ -watt 10% resistor

R5a thru R5h—330-ohm, $\frac{1}{2}$ -watt 10% resistor

R7—2200-ohm, $\frac{1}{2}$ -watt 10% resistor

R8—3900-ohm, $\frac{1}{2}$ -watt 10% resistor

R9—8200-ohm, $\frac{1}{2}$ -watt 10% resistor

R10—15,000-ohm, $\frac{1}{2}$ -watt 10% resistor

R11—33,000-ohm, $\frac{1}{2}$ -watt 10% resistor

R12—62,000-ohm, $\frac{1}{2}$ -watt 10% resistor

R13—120,000-ohm, $\frac{1}{2}$ -watt 10% resistor

R14—120-ohm, $\frac{1}{2}$ -watt 10% resistor

