SEQUENTIAL TIMER

Press S1, and relay K1 pulls in for a time interval determined by the setting of R3. When IC1 times out and K1 opens once again, IC2 gets triggered. This causes K2 to pull in for an interval determined by R7's setting. Finally IC2 will time out and trigger IC3, thereby causing K3 now to pull in. Once IC3 times out and K3's contacts open, action ceases if S2 is flipped to the right. However, if S2 had been flipped to the left, IC1 would have once again been triggered as IC3 timed out, thus starting the whole cycle over again.

With the values shown, each timer can be adjusted for times from .1 to 1 second. If your application demands longer timing intervals, simply increase the size of the timing capacitors (C3, C5 and C7) and/or the timing resistors (R2-R3, R6-R7, and R9-R10). One application of the circuit that comes to mind is in flash photography. Let each relay fire a separate, cheap flash unit. With the timers adjusted for rapid fire, you'll be able to take stroboscope-like pictures that you couldn't take with a single conventional flash unit because re-cycle times (.3-.5 seconds) are too long. With three units each flash has ample time to re-cycle while the others are firing. You might also try using color film and putting a separate colored filter over each flash tube.

PARTS LIST FOR RE-CYCLING SEQUENTIAL TIMER

C1, C4, C6—.001-uF capacitor
C2—0.1-uF capacitor
C3, C5, C7—10-uF, 25-VDC capacitor
D1-D6— 1N914 diode
IC1, IC2, IC3—555 timer integrated circuit
K1, K2, K3—6VDC,500-ohm relay
R1, R5, R8— 100,000-ohm,resistor
R2, R6, R9—10,000-ohm, resistor
R3, R7, R10— 100,000-ohm, linear-taper potentiometer
R4—3,300,000-ohm resistor
S1—pushbutton switch, normally open
S2—SPDT switch

SEQUENTIAL TIMER