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running light

By means of this circuit four lamps can be made to light up sequentially, so that 'running-light' effects are obtained. The circuit consists of a square-wave generator (T1, IC1), a shift register (IC2, IC3), and the lamp driver stages. With P1 the frequency of the square-wave can be varied between 0.1 Hz and about 10 Hz. The square-wave voltage is fed to the clock inputs of the shift register. By closing S2 the flip-flops are reset. The Q-outputs then become '0' and the $\overline{Q}$-outputs '1', all LED's are extinguished and no lamp is burning. After opening of S2, S1 is placed in position 1 so that the input of the register receives a '1'. After one clock pulse, the input information of the flip-flop is transmitted to the output and the first lamp lights up; S1 is now reset to position 2. Every following clock pulse shifts the logic '1' on to the next flip-flop and resets the previous one, so that the lamps light up in sequence.