

When S1 is switched to "expand" it isolates the emitter follower Q3 and connects C2 in parallel with C1 thereby making the charging time constant about 50 times greater than when current for C2 was supplied by Q3. With S1 in this position D2 reverse biases as C1 discharges through Q4 so that C2 still only discharges through the decay control R10.

If a step rather than a pulse is used as a trigger the sequences up to the discharging of C1 are the same but now the bi-stable will not stay in its reset mode and C2 can not discharge. Q4 now functions as a standard UJT relaxation oscillator that keeps trying to reset the bi-stable until the trigger is removed. In the expand position of S1, D2 isolates C1 from the fully charged C2 so that even though the first charging cycle takes place at a rate determined by the parallel combination of C1 and C2, subsequent cycles occur at the time constant of C1 alone.

## 2720-4 Function Generator

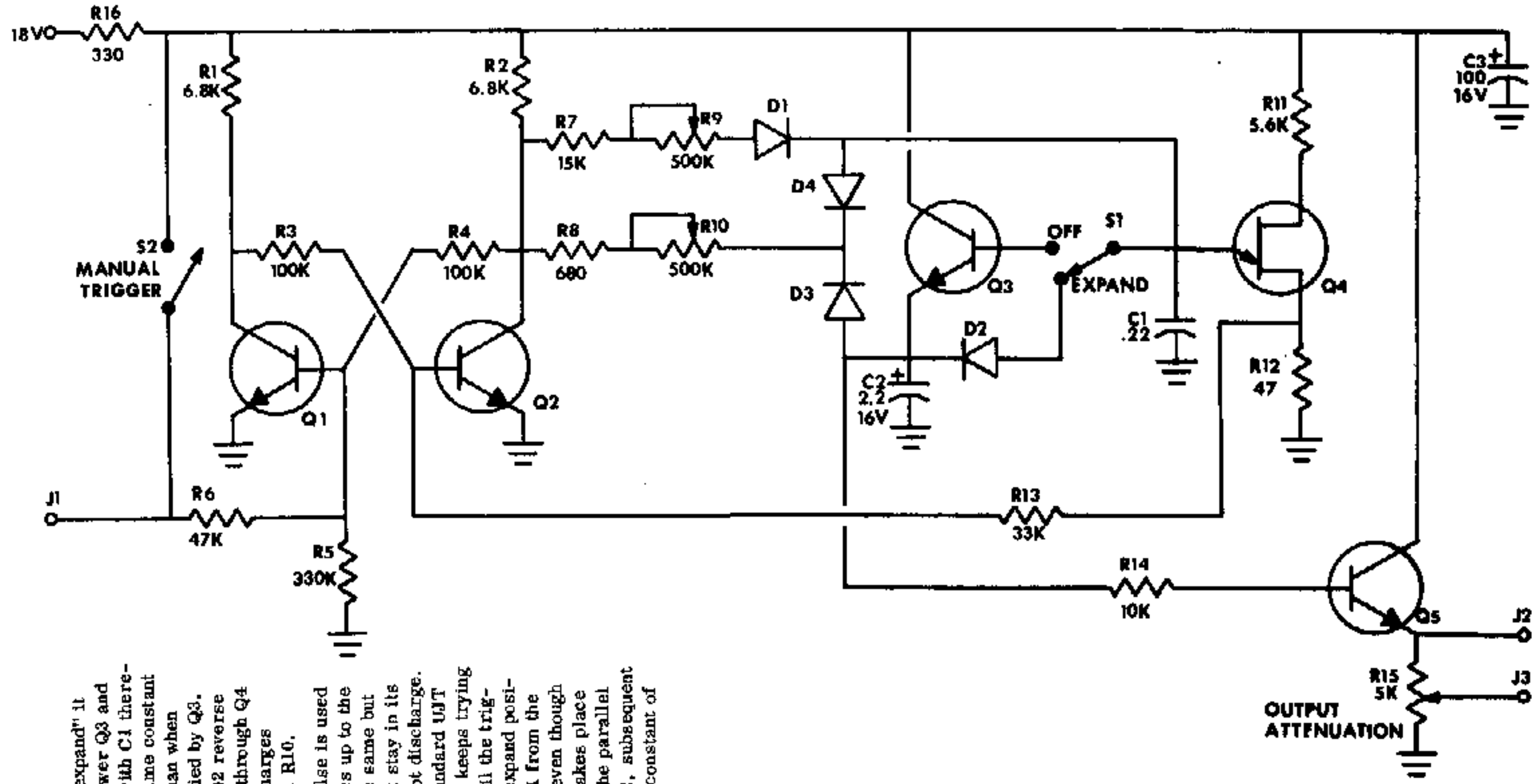


Figure 5