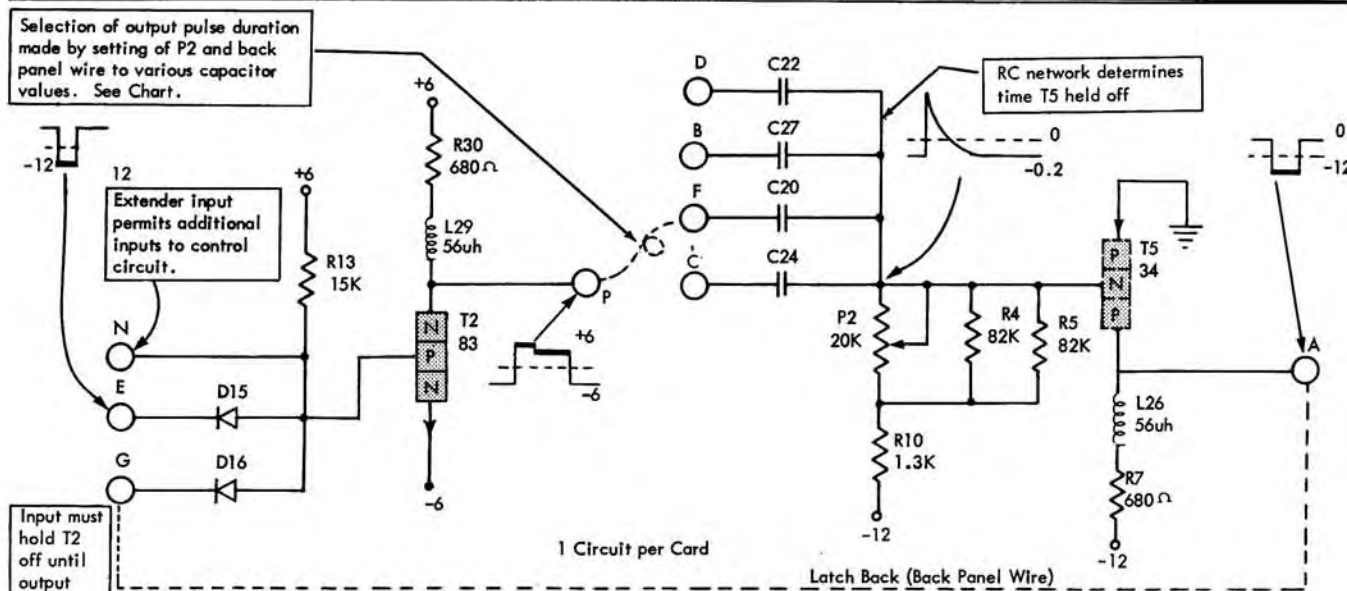


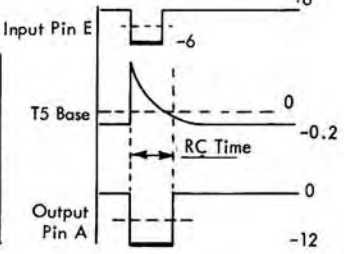
Possible Block Configuration



Input must hold T2 off until output pulse begins. $PW \approx 0.5\mu s$

NC-- 371592

"U" Line Levels		Pin P Wired to Pin	Capacitor (ufd)		Output Pulse Duration (usec)
Min.	Max.		Used	Value	
-0.5	0.2	D	C22	0.01	7.5 to 90.0
-7.4	-6	B	C27	0.10	75.0 to 900.0
		F	C20	1.0	750.0 to 9000.0
-12.5		C	C24	10.0	7500.0 to 9000.0



CTDL Single Shot Trigger Circuit (U Input)

The NC -- card consists of one CTDL single-shot trigger circuit. The triggering action is initiated by the leading edge of a $-U$ input pulse to pin E or to the extender pin N. The output is a $-U$ signal having a desired pulse width. This circuit is self-restoring in that it is flipped to a certain state by the $-U$ input signal, and then returns to its original status after a predetermined time set by an RC network. The output pulse duration is independent of the input signal except for its start and repetition rate. A definite off period is required between triggering pulses to allow for the discharge of the timing capacitor. Back-panel wiring to one of four capacitor values selects the range of the output pulse duration. P2 permits adjustment to a specific output pulse duration within the range selected. A back-panel wire is also required for the "latch back" of the circuit.

Circuit Description

Assume that the circuit is back-panel wired as noted above and that T2 and T5 are forward-biased on. C20 is discharged through the low resistance paths offered by T2 and T5 on.

When a $-U$ level is applied to pin E, T2 becomes reverse-biased off. The collector voltage of T2 increases to $+6$ volts. Because the voltage across C20 cannot change instantaneously, the sudden positive shift appears across the resistor network and is seen at the base of T5. T5 is reverse-biased off until the charge on C20 decreases the base voltage of T5 below ground potential. The charge path is through R4, R7 and P2 to R10 and $-12v$. While T5 is biased off, the $-U$ output at pin A is "latched" back through D16 to keep T2 off for the RC charge time of C20.

When the base voltage of T5 decreases to approximately $-0.2v$, T5 is forward-biased on and the output is increased to $0v$. The latch-back circuit through D16 turns on T2 and quickly discharges C20. A $-U$ output of a predetermined pulse width is thus obtained from this circuit.

Application

The single-shot trigger card is used in pulse forming circuits, master clock circuits and delay circuits. It is possible to produce output pulses having a shorter time duration than the triggering pulse; however, a much poorer fall time of the output pulse results. The chart relates the back-panel wiring to the various capacitor values used and to the range of the output pulse obtained.