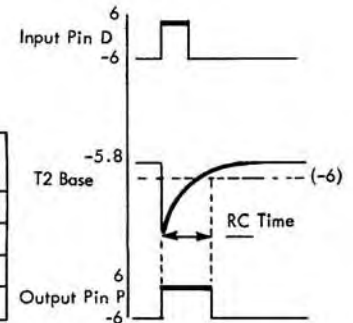


NB-- 371591

"T" Line Levels		Pin A Wired to Pin	Capacitor (ufd)		Output Pulse Duration (usec)
Min.	Max.		Used	Value	
		G	C21	0.01	7.5 to 90.0
		C	C25	0.10	75.0 to 900.0
		N	C20	1.00	750.0 to 9000.0
		E	C23	10.00	7500.0 to 9000.0



### CTDL Single-Shot Trigger Card (T input)

The NB -- card consists of one CTDL single-shot trigger circuit. The triggering action is initiated by the leading edge of a +T input pulse to pin D or to the extender input pin B. The output is a +T signal having a desired pulse width. This circuit is self restoring, in that it is flipped to a certain state by the +T 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 an 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 the 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 T5 and T2 are forward-biased on. C21 is discharged through the low resistance paths offered by T5 and T2 on.

When a +T level is applied to pin D, T5 becomes reverse-biased off. The collector voltage of T5 drops to

-12v. Because the voltage across C21 cannot change instantaneously, the sudden negative shift appears across the resistor network and is seen at the base of T2. T2 is reverse-biased off until the charge on C21 increases the base voltage of T2 above -6v. The charge path is through R4, R7, and P2 to R9 and +6v. While T2 is biased off, the +T output at pin P is "latched back" through D33 to hold T5 off for the RC charge time of C21.

When the base voltage of T2 increases to approximately -5.8v, T2 is forward-biased on and the output decreases to -6v. The latch-back circuit through D33 now turns on T5 and quickly discharges C21. A +T 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 input triggering pulse; however, a much poorer fall time of the output signal results.

The chart above relates the back-panel wiring to the various capacitor values used and to the range of the output pulse obtained.