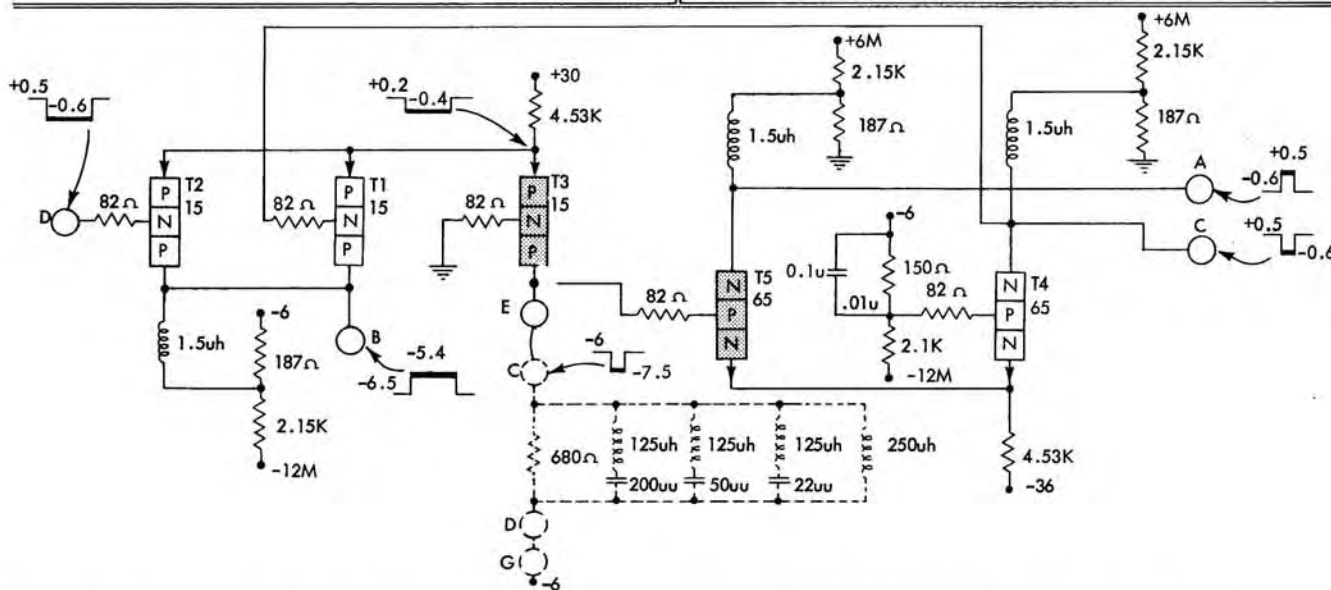


Single Shot and Timing Control Circuit



Card Code	Part No. 37----	Cplg Network		Input Levels		In-phase Output		Out-phase Output		Term. B Output		Ma Output									
		In \emptyset	Out \emptyset	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	In \emptyset	Out \emptyset	Term. B							
EHVK	1368	Yes	Yes	+0.4	See driver for max. output levels	+0.4	+0.5	+0.4	+0.5	+0.5	+0.5	Min.	5.88	5.97	6.04						
EHVL	1367	Yes	No	-0.4		-0.4	-0.8	-0.4	-0.8	-0.4	-0.9	Nom.	6.47	6.66	6.70						
EHVM	1366	No	Yes									No	No	No	No	No	No	Max.	7.05	7.14	7.35
EH--	1369	No	No																		

Diffused Junction, N Line Single-Shot

The single-shot card EHVK is used with a pulse forming card such as the EK-- card shown. Pulse forming cards are available in the 50 millimicrosecond to 50 microsecond range. The single-shot time duration is determined by the timing card used. The fall of the input N line starts the single-shot. Once started, the single-shot develops an in-phase N line timed output, an out-of-phase N line timed output, and a P line output pulse whose width is equal to the input pulse width or the timing card pulse width, whichever is greater. The input pulse width may be less than or greater than the timed output pulse. A recovery time of at least the timed pulse width is required before the input may be pulsed again.

The timing card is made up of lumped constants in a shorted delay line configuration. Basically the pulse forming network is a summation of odd order harmonics.

Circuit Description

As shown, T2 is reverse-biased and T3 is forward-biased. Current flows from -6v through 680 ohms and 250 μ H in parallel and through T3 to +30v. The low DC resistance of the 250 μ H coil establishes the collector of

T3 at about -6v. T5 is forward-biased and current flows from -36v through 250 μ H coil to establish output A at a -N level of -0.6v. Output C is at a +N level of +0.5v because of divider current. Output B is at a -P.

When the input to T2 falls, T2 is forward-biased and T3 cuts off. Current flow out of the coupling network through T2 to +30v establishes output B at a +P level of -5.4v. The field in the 250 μ H coil collapses and a 1.5v signal is developed. This signal drives the base of T5 to -7.5v which forward-biases T4 and cuts off T5. Current flow through T4 into its coupling network establishes output C at a -N level of -0.6v, which forward-biases T1. T1 holds T3 cut off during the timing pulse. This arrangement permits the single-shot to be pulsed by an input whose duration is less than the single-shot timing. Output A rises to a +N level of +0.5v because of divider current.

When the pulse forming network times out, T5 is again forward-biased and T4 is cut off. Output A and C return to their original state and T1 is cut off. When the input signal rises, T3 is forward-biased and T2 is cut off. Output B falls to -P.