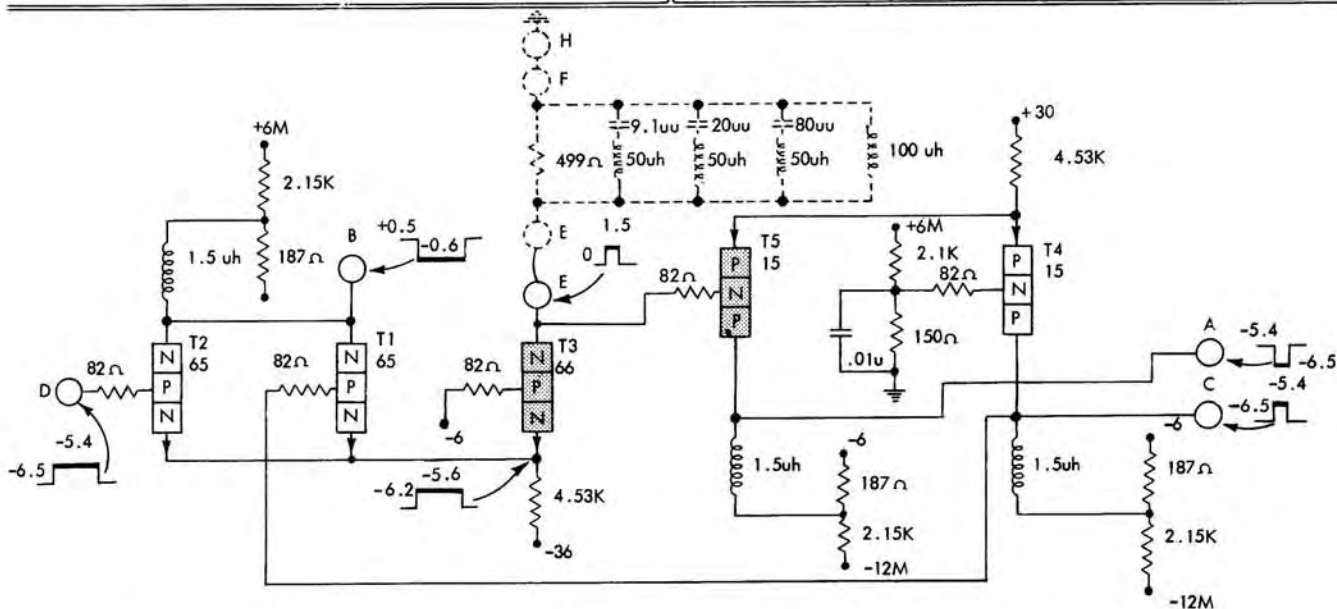


Single Shot and Timing Control Circuit



Card Code	Part No.	Cplg Network		Input Levels		In-phase Output		Out-phase Output		Term. B Output		Ma. Output			
		In Ø	Out Ø	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	In Ø	Out Ø	Term B	
EJVK	1373	Yes	Yes	-5.6	See driver for max. output levels	-5.6	-5.2	-5.6	-5.2	-5.6	-5.1	Min.	5.88	5.97	6.04
EJVL	1372	Yes	No	-6.4		-6.4	5.6	-6.4	6.5	-6.4	6.5	Nom.	6.47	6.66	6.70
EJVM	1371	No	Yes	-6.4		-6.4	5.6	-6.4	6.5	-6.4	6.5	Max.	7.05	7.14	7.35
EJ--	1374	No	No	-6.4		-6.4	5.6	-6.4	6.5	-6.4	6.5				

### Diffused Junction, P Line Single-Shot

The single-shot card EJVK 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 rise of the input P line starts the single-shot. Once started, the single-shot develops an in-phase P line timed output, an out-of-phase P line timed output, and an N 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.

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 -36v through T3, and through 499 ohms and 100μh in parallel to ground. The low dc resistance of the 100μh coil establishes the collector of T3

at about 0v. T5 is forward-biased and current flows out of its network, through T5 to +30v, and establishes output A at a +P level of -5.4. Output C is at a -P because of divider current and output B is at a +N.

When the input to T2 rises, T2 is forward-biased and T3 cuts off. Current flow through T2 into its coupling network establishes output B at a -N level of -0.6v. The field in the 100μh coil collapses and a 1.5v signal is developed. This signal drives the base of T5 to +1.5v which forward-biases T4 and cuts off T5. Current flow out of the coupling network, through T4 to +30 establishes output C at a +P level of -5.4v which forward-biases T1. T1 is designed to hold T3 cut off for the duration of 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 falls to a -P level of -6.5v.

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 cuts off. When the input signal falls T3 is forward-biased and T2 is cut off. Output B rises to +N.