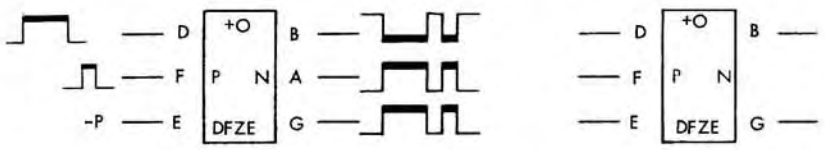

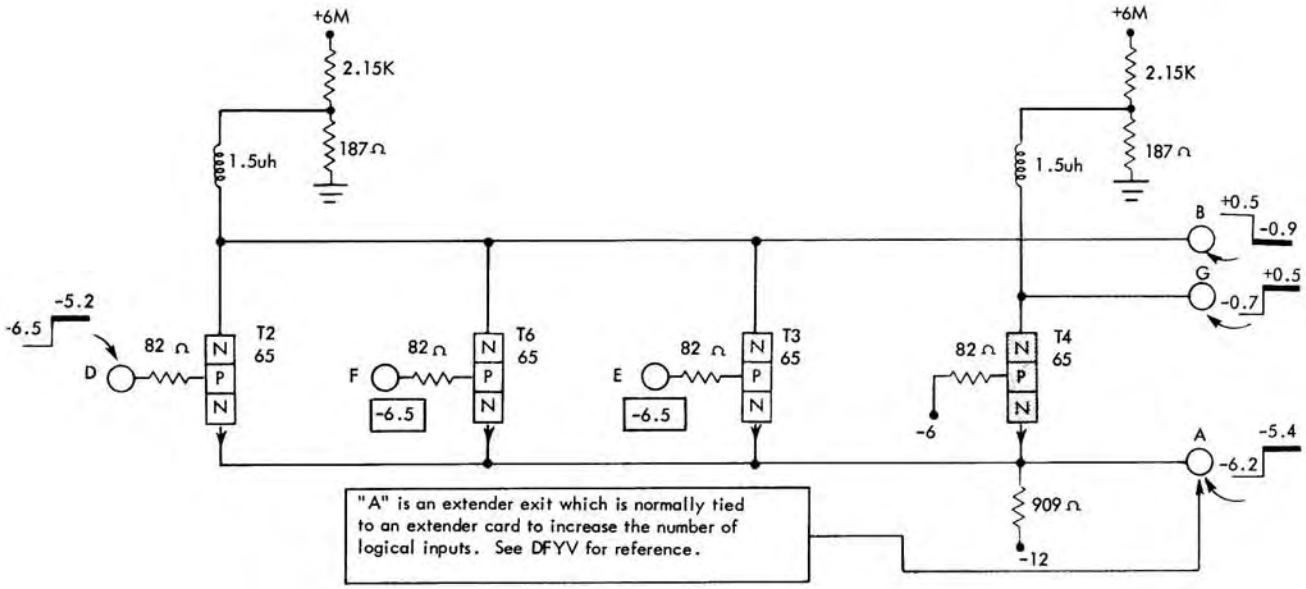

Card Code	Part No. 37----	Cplg Network In Ø	Cplg Network Out Ø	Circuit Used as		Input Levels Min.	Input Levels Max.	In Ø Output Min.	In Ø Output Max.	Out Ø Output Min.	Out Ø Output Max.
DFZE	1337	Yes	Yes	+O	-A	-5.6	See driver for max Output Levels	+0.4	+0.6	+0.4	+0.6
DFZC	1338	No	Yes	+OA	-AO	-6.4		-0.4	-1.1	-0.4	-1.4
				+TO	-TA						

Ma. Output	In Ø	Out Ø	musec Block Delay Turn On	Turn Off
Min.	5.62	5.98	6	4
Nom.	6.25	7.22	15	11
Max.	6.87	8.46	25	18

Diffused Junction Three-Way OR, Type A

The three-way P-type logic block is an OR circuit to positive logic and an AND circuit to negative logic. As an OR circuit, any positive input produces a positive in-phase output. As an AND circuit, all inputs must be negative to obtain a negative in-phase output.

The OR circuit logic block shows that any +P input produces a +N in-phase output and a −N out-of-phase output. Output A is an extender exit for extender card use.

Circuit Description

This circuit uses three transistors (T2, T6, and T3) in an OR configuration similar to diode circuitry; i.e., the base-to-emitter of each transistor is a PN diode with the N region commoned and returned to a negative supply (−12v). The emitter output of this OR circuit drives into a grounded base amplifier T4 which is referenced to −6v. When all inputs are −P, T4 is forward-biased and clamps to −6v. Output G is at a −N level of −0.7v because of current flow (6.3ma) through T4 into its coupling network. Output B is at a +N level of 0.5v because of divider current through its coupling network.

When any input rises above −6v (see input D) the emitter line follows it and T4 is reverse-biased and cuts off. In this state, output G rises to a +N level because of divider current through its coupling network and output B falls to a −N level of −0.9v because of current flow (7.2ma) through an input transistor into its coupling network. The peaking coils compensate for output capacitance, so that optimum square-wave response is realized. The 82 ohm base resistor is an oscillation suppressor which is necessary because of the inductive coupling networks used. The type B block is the preferred circuit because it provides a better input current source (4.53K to −36v) than the type A (909 ohms to −12v).

Application

For some applications, the circuit driven by this logic block requires a special input coupling network. In such cases cap code ZC is used (see chart). This circuit is also combined with an AND circuit to make up a trigger and with other OR circuit blocks to obtain DOT functions.