



Card Code	Part No 37----	Extender Input Circuit	CM Output Circuit	Collector Loading Circuit		Delays (usec)					Circuit Use		
				1	2	Per	Basic Block	Par'lel C'lector	CM Base	Diode Input		100 uufd	
CKYC	1071	1,2	No	Yes	Yes	Turn On	Min.	.18	.0000	.00	.00	.02	+A
							Max.	.52	.007	.02	.02	.05	+AO
						Turn Off	Min.	.05	.001	.005	.000	.03	+TA
							Max.	.12	.010	.02	.005	.06	-O -OA

CTDL Three-way +AND Extensible Inputs

The CKYC card consists of two three-way NPN logic circuits. Each circuit on the card performs a +AND and INVERT logical function that translates a U input to an out-of-phase T output. Internal collector loading to each circuit provides CTDL outputs at pins N and H. Extender pins G and P permit additional inputs to control circuits 1 and 2.

Circuit Description

The +AND function is performed by the diode switch of D33, D31, and D32 returned to +6v, and the INVERT function is accomplished by the transistor circuit. Coincidence of +U levels is required at input pins D, E, and F to forward-bias T2 into saturation. With T2 on, the output at pin N nears -6v (minus the small voltage drop across the transistor). When any of the input signals drops to -12v, T2 is turned off. The low forward impedance of the conducting logic diode rapidly removes the ex-

cessive minority carriers from the base region. This action minimizes the effect of operating the transistor in saturation and assures a faster response at the trailing edge of the output waveform. At this time, the transistor acts as a high impedance and the output at pin N increases to +6v. (No Load).

Because of the large input signals used, input loading conditions do not affect the transistor status. The transistor is either in saturation or at cut-off. Output voltage levels are dependent on loading conditions.

Application

Logical functions performed by this circuit are indicated by the symbols listed in the chart labeled Circuit Use. The DOT functions are accomplished by connecting similar output pins together to share a common collector load. CTDL and voltage-mode outputs are available from this circuit as noted on the schematic.