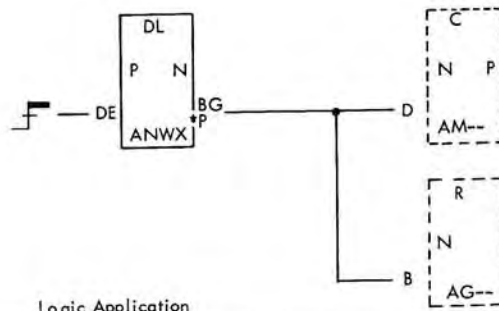
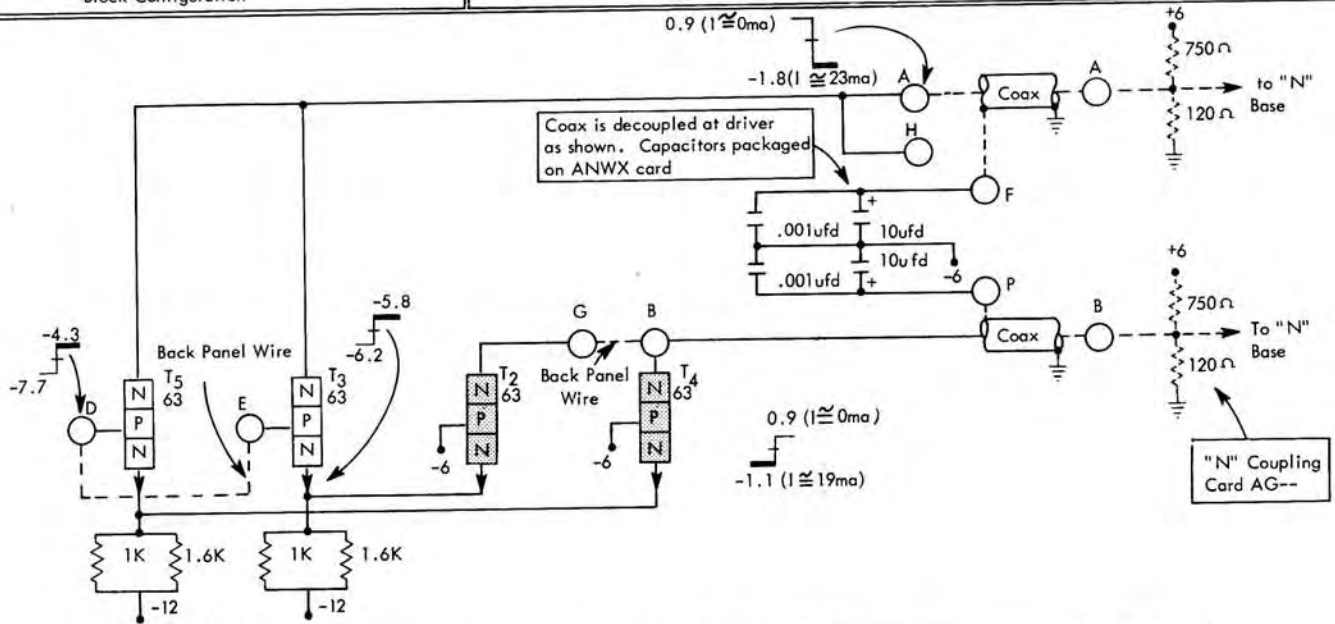


Block Configuration



Logic Application



ANWX -- 371217

Input I (ma)		"P" Input Level		"N" In Ø Output		"N" Out Ø Output		Output (I) Available When Driving Proper Coupling Load (ma)		DC Loading Possible. No of CM Bases Driven		
On	Off	Min.	Max.	Min.	Max.	Min.	Max.	In Ø	Out Ø	In Ø	Out Ø	
0.58 (min)	Due to I_{bo} 's of transistors I_{off} can be up to 0.47	-5.6	-3.0	+0.6	+1.2	+0.6	+1.2	Min.	15.9	17.5	4	4
		-6.4	-9.0	-0.6	-1.5	-0.6	-3.0	Nom.	19.0	23.0		
								Max.	23.7	32.1		

Current Mode P Transmission Line Driver

This card has a transmission line driver circuit and a capacitor decoupling network used to power signals into coaxial cables. The circuit accepts a P input and provides in-phase and out-of-phase N outputs that drive into 93 ohm coaxial cables terminated in their proper resistor coupling networks. Use of coaxial cable eliminates stray pickup, decreases transmission line delays due to cabling, and connects two different reference levels when driving between distant points.

The circuit is basically two single input logic blocks with their collectors tied together for higher output drive currents. The coaxial cable shields are tied directly to ground at the loading end of the transmission lines and are decoupled at the driving end of the line by the capacitor decoupling networks on the card.

Circuit Description

A typical line driver application is shown above. Assume a starting condition of T4 and T2 conducting and common

emitter voltages of the transistors at -6.2 volts. A -P input at pin D holds T5 and T3 off. With T3 and T5 off, no current flows into their coupling load and gives a +N out-of-phase output. Conduction of about 19ma through T2 and T4 into the cable and their coupling network gives a -N in-phase output at this time.

When a +P input appears at pin D of the line driver, T5 and T3 are forward-biased on and T2 and T4 are reverse-biased off. Conduction of near 23ma into the out-of-phase coupling network now results in a -N output at pin A. With T2 and T4 off, the in-phase output increases to the +N level.

Application

When properly terminated, a maximum of four current-mode N bases can be driven by the in-phase or the out-of-phase outputs of this line driver. Back-panel wiring is required as noted above.