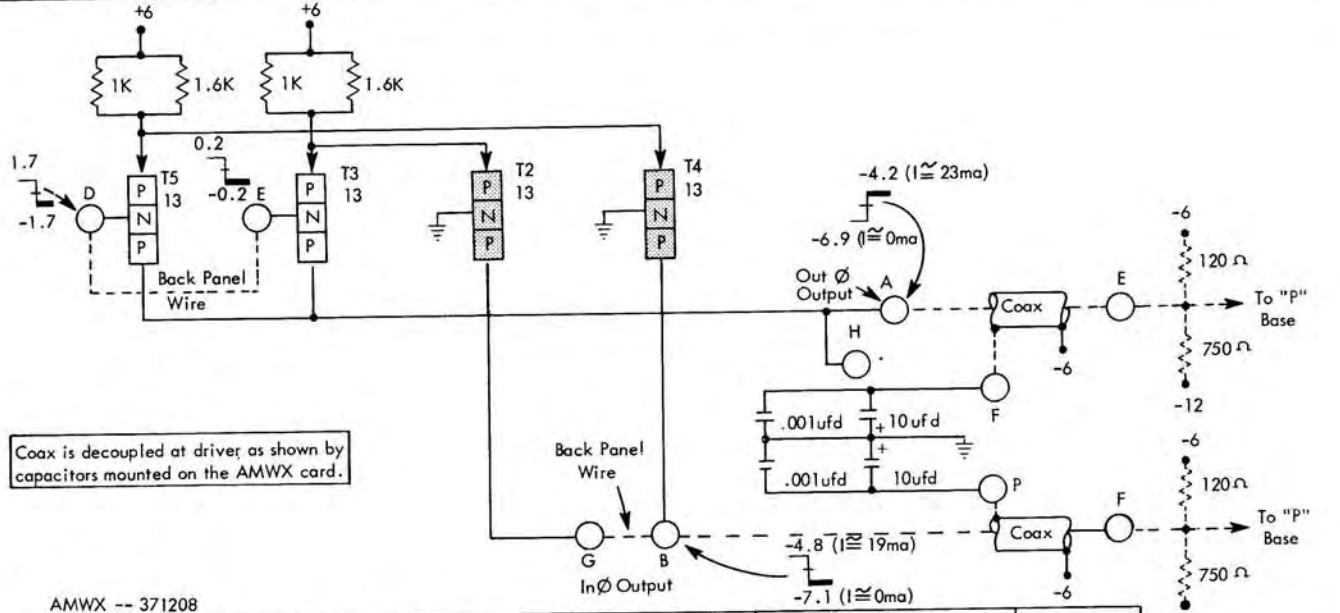


Block Configuration

Logic Application



Coax is decoupled at driver as shown by capacitors mounted on the AMWX card.

AMWX -- 371208

Input I (ma)	"N" Input		"P" In \emptyset Output		"P" Out \emptyset Output		Output I Available when Driving into Proper Coupling Load (ma)		DC Loading No. of CM Bases Driven				
	On	Off	Min.	Max.	Min.	Max.	Min.	Max.	In \emptyset	Out \emptyset			
0.58 (min)	Due to I_{bo} 's of transistors I_{off} can be up to 0.47		+0.4	+0.3	-5.4	-4.5	-5.4	-3.0	Min.	15.9	17.5	4	4
			-0.4	-3.0	-6.6	-7.2	-6.6	-7.2	Nom.	19.0	23.0		
									Max.	23.7	32.1		

"P" Coupling Load Card AG--

Current Mode N 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 an N input and provides in-phase and out-of-phase P outputs which 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 -6 volts 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 the common emitter voltages of the transistors at +0.2v. A +N input at pin D reverse biases T5 and T3 off, giving a -P inverted output at pin A. Conduction of about 19ma from the in-phase load and the coupling networks through T4 and T2 gives a +P output at pin B. When the input to the driver decreases to -1.7v, T5 and T3 are forward-biased, and T2 and T4 are biased off. Conduction from the out-of-phase coupling network and load increases to near 23ma and gives a +P level at pin A. The in-phase output drops to a -P level because no current flows from its coupling network.

Application

When properly terminated, a maximum of four current-mode P 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.