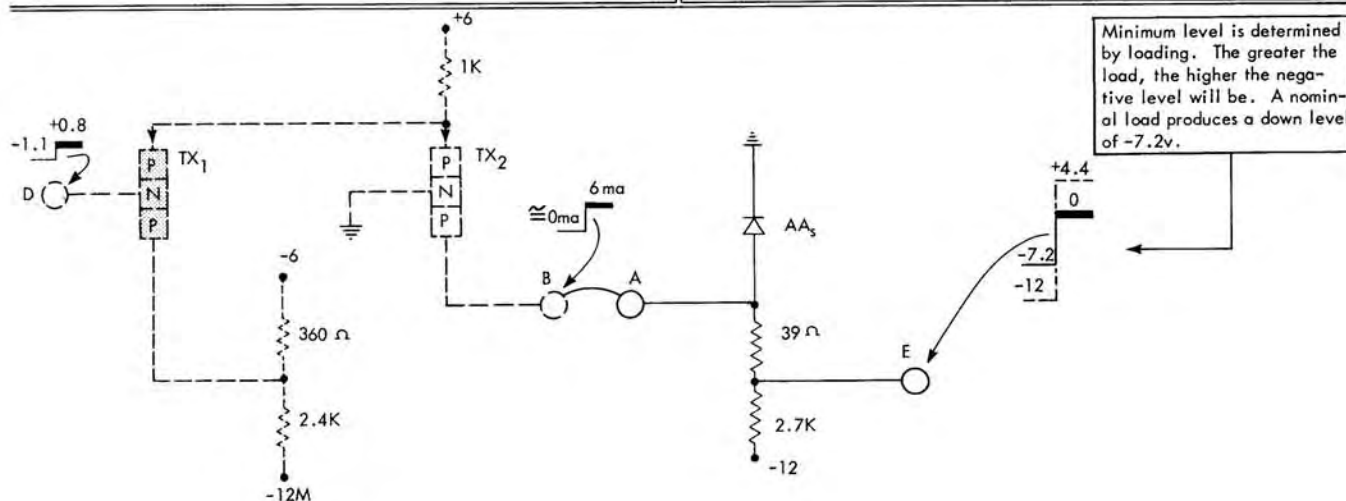


Typical Application of Logic



Minimum level is determined by loading. The greater the load, the higher the negative level will be. A nominal load produces a down level of -7.2v.

Card Code	Part No 37----	Circuit Use	Input Current		Output Levels		Max. Possible Loading (Pyramiding Factor)		
					Min.	Max.			
AQ--	1031	C	Min.	4.82	-6.6	-0.2	+0.2	1	NPN Ctrl
								1	PNP Inverter
								2	PNP E.F.
								3	Trigger Gates
			Max.	7.3		-12.5			

Current Mode to Voltage Mode Converter

This converter is used to translate from current-mode P levels to CTRL S levels. For a P line input it develops an in-phase S line output. It requires a current input and must be driven by the in-phase output of an N block and must be the only circuit connected to this output.

Circuit Description

This circuit converts a 0 to 6ma input current to a -12v to 0v output signal. In the state shown, tx2 is reverse-biased and input current to the converter is close to zero. At this time the converter output will vary from -12v to -6.6v depending on the load tied to output E. This level

would be -12v for an open circuit load and -6.6v for the maximum permissible.

When the input level to tx1 rises above ground, tx2 is forward-biased and, depending on its bias, will draw from 4.82ma to 7.3ma from the converter. A current drain of 4.82ma through the 2.7K resistor is large enough to raise output E above the 0v level. Output E does not rise above zero because the diode clamp becomes forward-biased and holds the output level at 0v. The 39 ohm resistor develops a -0.2v drop to compensate for the +0.2v diode drop. Such compensation places output E at zero volts instead of +0.2v. Once the diode is forward-biased it supplies any further increase in current demand to the transistor.