



Card Code	Part No. 37----	Input Levels		Max Output Current	Max Load Back Current ( $I_{bo}$ 's) Allowed	Input Current Levels (ma)		usec Delay Per		
		Min.	Max.			Min.	Max.	C Block and DE Block	100uu Load	Driven Base
AEWZ	1239	-5	See driver for max Output Levels	5ma to drive 20 bases	2.5ma	Min.	4.82	.05	.01	.012
		-7				Nom.	7.6	.1	.01	.015
						Max.	10.8	.16	.01	.018

**Current Mode P-Line Complemented Emitter Follower**

This complemented emitter follower is designed to receive a P line input and to provide an in-phase P line output to drive large branching circuits. Although it can drive into twenty local logic blocks, it is not designed to drive large capacitive loads. Such loads are normally driven by line drivers. The circuit shown has a special input coupling network which converts a current input into the signal levels necessary to drive the complemented transistor configuration used. Because complemented transistors are used, the output signal has about equal rise and fall characteristics.

**Circuit Description**

In the state shown, tx1 is cut off and the input current to C is zero. The input attempts to fall to -12v but never reaches this level because D21 becomes forward-biased

and clamps the input to -7.7v. At this time, T4 is forward-biased because its emitter looks at the emitter level of rx3 which is about -6v. T4 conducts and provides a low impedance to charge line capacity and supplies the back current of 20 tx3's.

When the input level to tx1 falls below ground, it conducts and draws 7.6ma out of input C. Part of the current is drawn from -12v through the 1.8K to input C. All the current is not supplied through the 1.8K because this would raise the input level to +1.6v. When the input rises above -4.7v, D24 becomes forward-biased. Thus, input current is also supplied from -6v through 120 ohms and D24. Current flow through this combination sets the input level at -4v. When the input level rises above -6v, T4 cuts off and T5 conducts. Conduction through T5 supplies input current for a maximum of 20 tx3's.