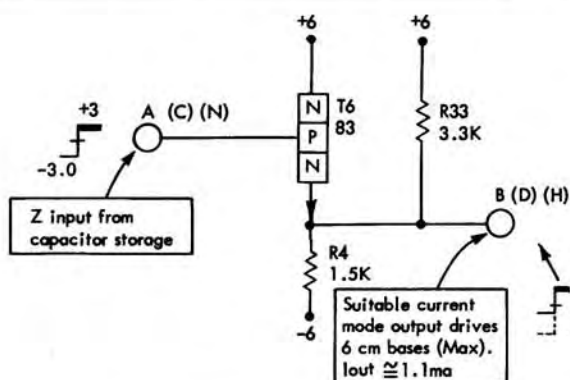
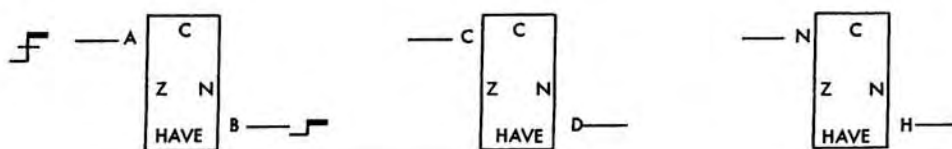


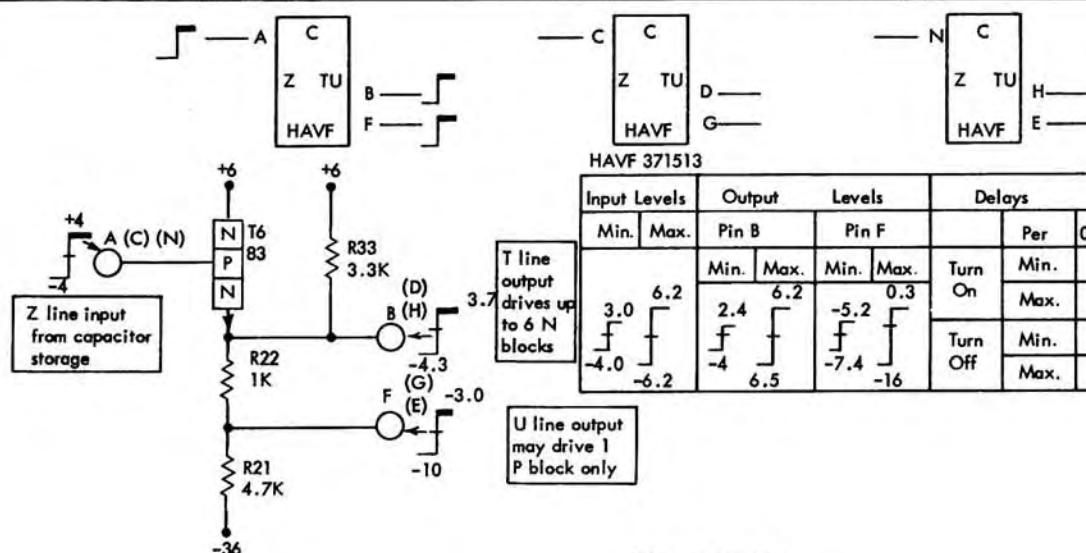
HAVE HAVF



HAVE 371516

Input Levels		Output Level		Delays (usec)				
Min.	Max.	Min.	Max.	Turn On	Load	0uufd	33uufd	100uufd
3.0	6.2	0.6	6.2		Min.	.04	.08	.14
-4.0	-6.2	-0.6	-3.0	Max.	.08	.12	.20	
				Turn Off	Min.	.00	.03	.10
					Max.	.03	.06	.12

3 Circuits Per Card



HAVF 371513

Input Levels		Output Levels		Delays (usec)				
Min.	Max.	Pin B	Pin F	Turn On	Per	0uufd	33uufd	100uufd
3.0	6.2	2.4	6.2		Min.	.04	.08	.14
-4.0	-6.2	-4	0.3	Max.	.08	.12	.20	
				Turn Off	Min.	.00	.03	.10
					Max.	.03	.06	.12

3 Circuits Per Card

Core Mode to Z-to-N Converter

The HAVE card senses the core mode Z level of a capacitor storage circuit and converts it to an in-phase current mode N line output. Three identical circuits are located on each HAVE card.

In the circuit shown above, conduction through the divider network of R4 and R33 sets the emitter voltage of T6 to -2.3v. When the Z input line drops to -3v, T6

is reverse-biased off. The output at pin B remains at -2.3v. A +Z input level forward-biases T6 on. Additional current flow through R4 and T6 clamps the output at pin B to +2.7v. The output at pin B is a usable current mode N level that can drive directly into current mode bases. Loading conditions affect the down level seen at pin B.

Core Mode to CTDL Converter

The HAVF card accepts a Z line input from a capacitor storage circuit and translates it to an in-phase T or U line. Three identical circuits are on each card. Output loading conditions affect the output voltage level at pins B and F.

Circuit Description

When a -Z line (-4v) is applied to pin A, emitter

follower action sets the voltage at pin B to -4.3v (no load). Increasing the Z line input to +4v causes the emitter follower to conduct more and the output at pin B is +3.7v. The T output is used to drive CTDL N type blocks. The circuit may also be used to drive into CTDL P type blocks by using the U output indicated at pin F.

The circuit delays are the result of transistor turn-on time and the output circuit RC constants.