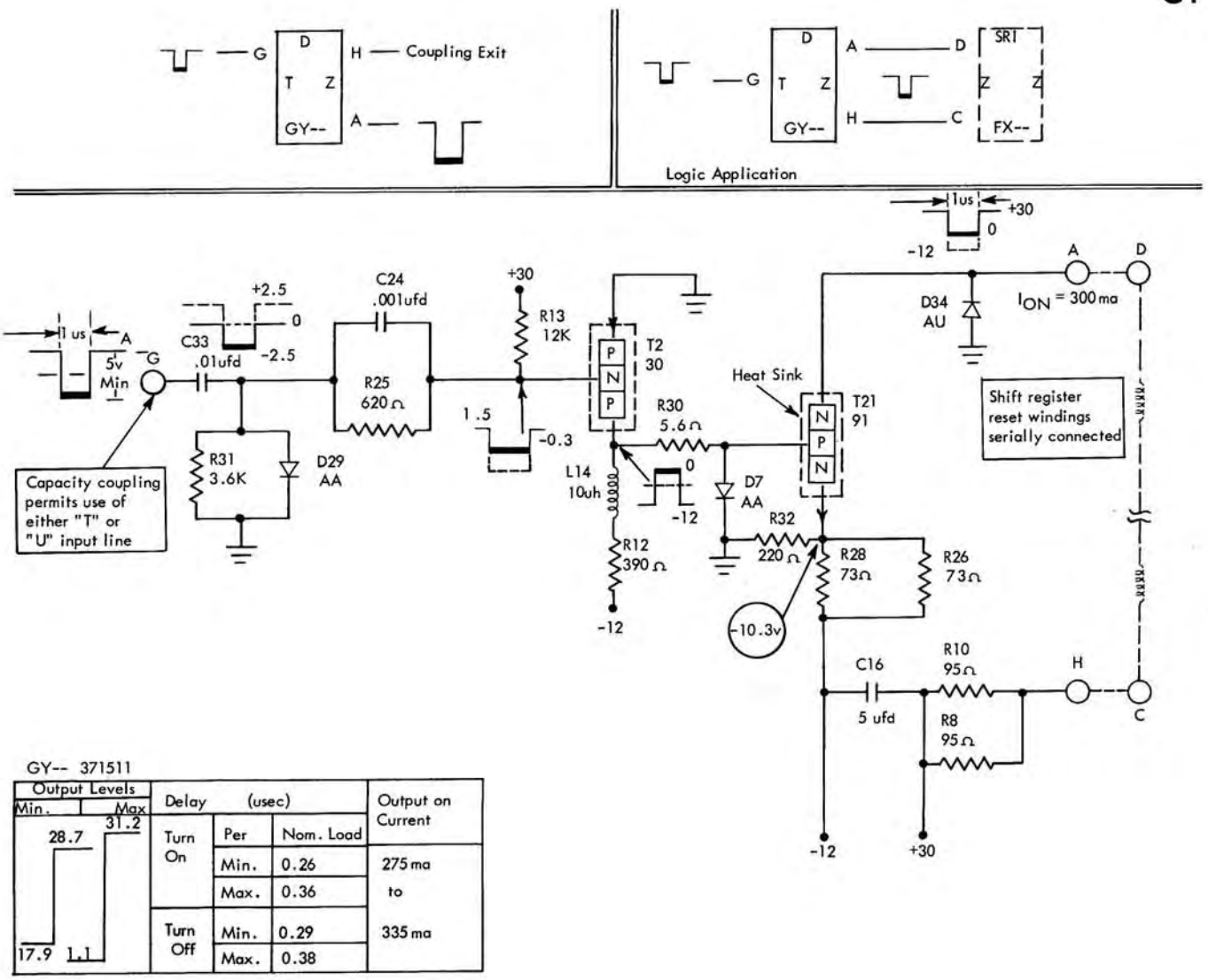

GY-- 371511

Output Levels		Delay (usec)		Output on Current
Min.	Max			
28.7	31.2	Turn On	Per Nom. Load	
			Min. 0.26	275 ma
			Max. 0.36	to
		Turn Off	Min. 0.29	335 ma
			Max. 0.38	
17.9	1.1			

Read-Out Driver

The read-out driver (ROD) is designed to reset or shift out data bits from magnetic core shift registers. A basic inverter circuit drives a power diffused transistor and provides a constant current pulse to the serially connected shift windings of the shift register cards. The voltage level of the core mode output is a variable dependent on the number of cores switched.

Read-out drivers can be driven from either T or U levels because the input signal is AC coupled and does not require a specific voltage reference. The input pulse timing determines the read-out timing of the shift register.

Circuit Description

In the quiescent state, the base level of T2 is set at 1.5v by conduction through the input divider network to the +30v supply. T2 is off. With T2 off, T21 is reverse-biased off because its base is near −12v and its emitter is at −10.3v.

A negative input swing of at least 5v is sufficient to forward-bias the base of T2 and drive it into conduction. The collector voltage of T2 increases to ground potential and now forward-biases T21. The power transistor turns on and provides up to 300ma of current to the output circuit, and is capable of resetting up to 15 magnetic cores.

The 95 ohm resistors act as a fuse to protect the read-out windings of the cores if T21 is "locked" on. Because of the high current flow through the power-diffused transistor, T21 is set in a block type heat sink to help dissipate the heat developed. D7 clamps the base level of the power transistor to ground and protects the base-emitter junction of T21 if the −12v supply fails. D34 to ground provides protection for T21. It prevents the collector circuit from floating if the load card is removed, by providing a parallel collector path to ground.

Application

This read-out driver can drive a maximum of 30 shift register core windings, with 15 of the cores being in the ON status.