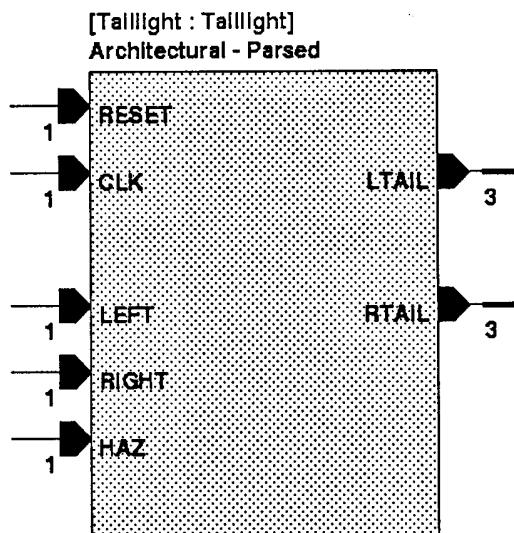


Tail-light controller

1. PIN DESCRIPTION



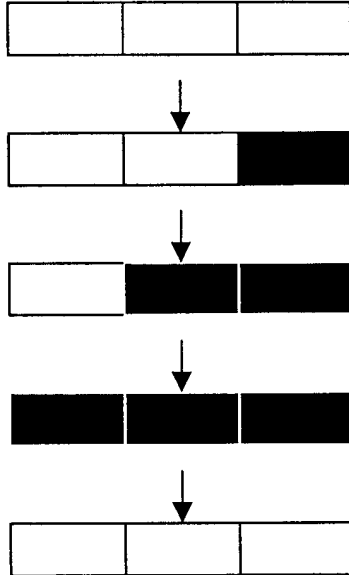
Pin Name	Size	Type	Function
RESET	1	Input	Reset signal
CLK	1	Input	Clock
LEFT	1	Input	Left turn request
RIGHT	1	Input	Turn right request
HAZ	1	Input	Emergency-flasher
LTAIL	3	Output	Left tail lights
RTAIL	3	Output	Right tail lights

2. FUNCTIONAL DESCRIPTION

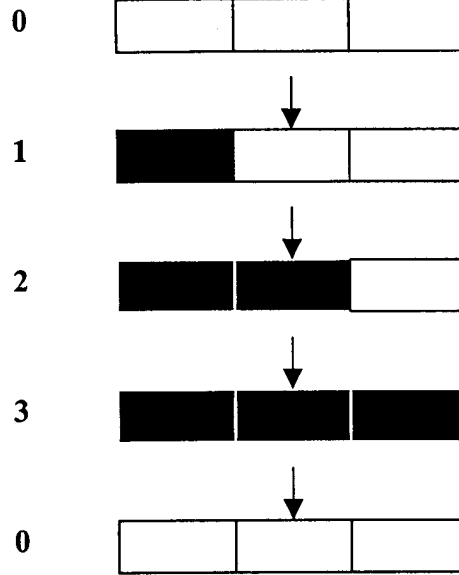
1972 Ford T-bird has three tail lights on each side, and for turns they operate in sequence to show the turning direction. Two input signals LEFT and RIGHT indicate the driver's request for a left or a right turn. An emergency-flasher input HAZ indicates hazard mode for all six tail lights flashing on and off in unison. Assume the existence of an external clock signal whose frequency equals to the flashing rate for the tail lights. For a left turn, the machine should cycle through four states, in which the right-hand lights are off and 0, 1, 2, or 3 of the left-hand lights are on. Likewise, for a right turn, it should cycle through four states in which the left-hand lights are off and 0, 1, 2, or 3 of the right hand signals are on. In the hazard mode, only two states are required for all lights on and all lights off. HAZ input has higher priority than LEFT and RIGHT signals.



Left Tail Light Sequence



Right Tail Light Sequence



1972 Ford Thunderbird

