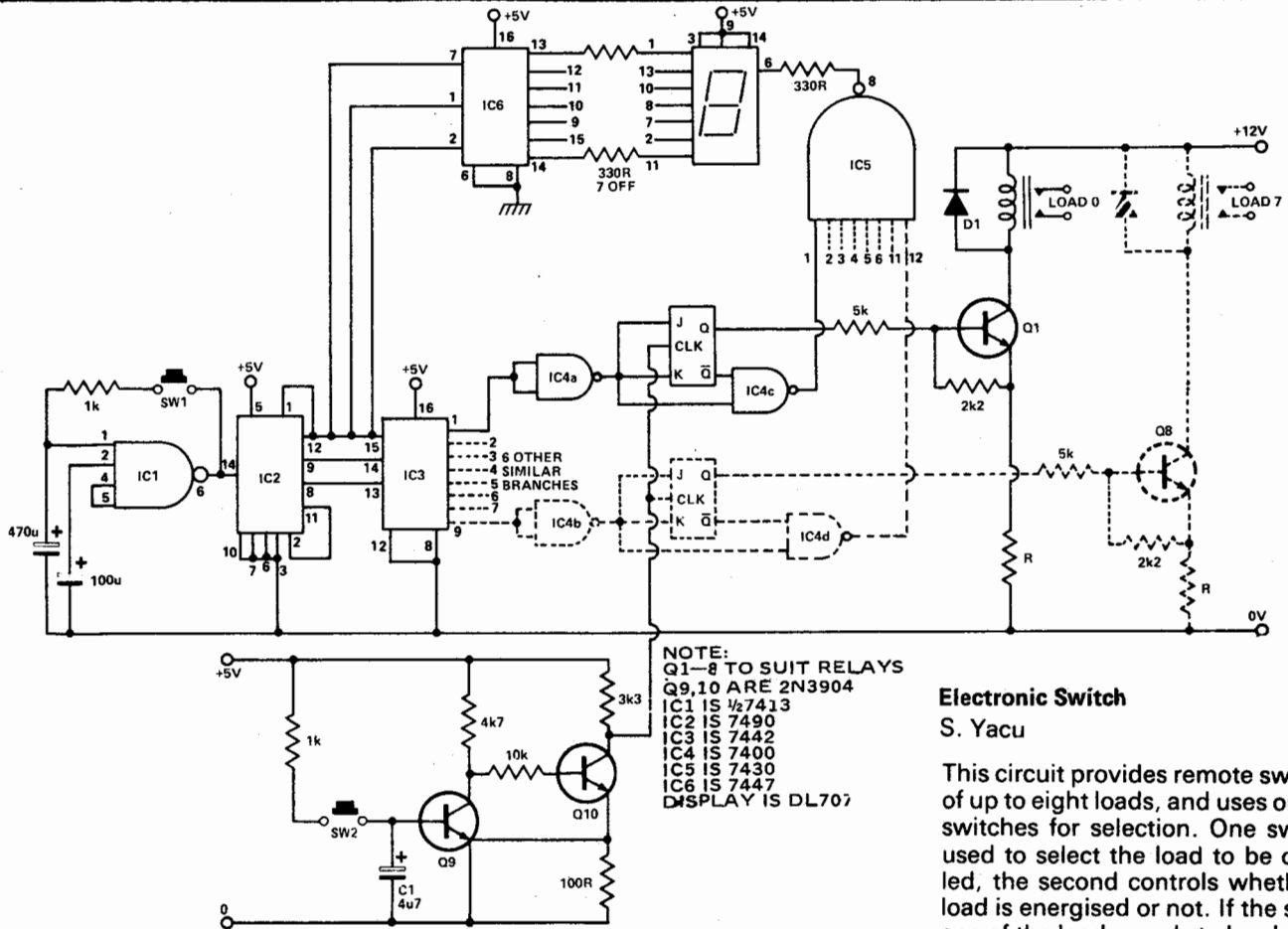# TECH TIPS



**NOTE:**
Q1—8 TO SUIT RELAYS
Q9,10 ARE 2N3904
IC1 IS ½7413
IC2 IS 7490
IC3 IS 7442
IC4 IS 7400
IC5 IS 7430
IC6 IS 7447
DISPLAY IS DL707

## Electronic Switch
S. Yacu

This circuit provides remote switching of up to eight loads, and uses only two switches for selection. One switch is used to select the load to be controlled, the second controls whether the load is energised or not. If the state of one of the loads needs to be changed, SW1 is depressed until the number of the load appears on the 7-segment display. The decimal point then indicates whether or not the load is energised. To change the state of the load, SW2 is depressed (pressing SW2 again will change the loads state again).

The circuit is based on a 7442, 1 of 8 multiplexer and a 7490 binary counter. When SW1 is closed, the Schmitt trigger IC1 will oscillate and clock the 4-bit counter. This drives the 7-segment decoder and the 1 of 8 multiplexer. The outputs from the multiplexer are inverted and fed to the J-K flip-flops. When SW2 is pressed and released, a pulse will occur at the collector of Q10. The pulse will clock the selected flip-flop and activate or deactivate the relevant relay driver transistor (Q1-8).